CHC-P33D

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

- CHC-P33D is composed of the models below. Service manuals are issued for each the component models, so please refer to each of the manuals.

COMPONENTS MODEL

System / Component	CHC-P33D
Tuner, deck, CD, amplifier	HCD-H33D
Satellite Speaker	SS-S33D
Superwoofer	SS-W33D

Supplied accessories

AM loop aerial (1)
Remote(1)
Sony SUM-3 (NS) batteries (2)
FM lead aerial (1)
Speaker cords (3)
Plug adapter (1)
(except for, Latin American countries, Australia, Singapore and Malaysia)
Supporter (1)
Cord holders (2)
Wrench (1)

SPECIFICATIONS

General

Destination	Power requirements	Power consumption
AEP, UK, German, Italian model	220-230 V AC, 50/60 Hz	75 W
E, Saudi Arabia, Hong Kong, Singapore, Argentine, Malaysia model	110-120 V/220-240 V AC, 50/60 Hz, Adjustable with the voltage selector	
Mexican model	120 V AC, 60 Hz	
Australian model	240 V AC, 50/60 Hz	

Dimensions — Approx. 225 × 210 × 235 mm (w/h/d) incl. projecting parts and controls
Mass — Approx. 4.8 kg

Design and specifications are subject to change without notice.

MICROFILM

MINI Hi-Fi COMPONENT SYSTEM

SONY

PARTS LIST (Accessoris & Packing Materials)

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  AED: Northern European
  AR: Argentine
  AUS: Australi an
  EA: Saudi Arabia
  E2: 120 V AC Area
  E3: 240 V AC Area
  G: German
  HK: Hong Kong
  IT: Italian
  MX: Mexican
  MY: Malaysia
  SP: Singapore

Ref. No.	Part No.	Description	Remark
	1-473-849-11	REMOTE, COMMANDER (RM-S11G)	
	1-501-594-11	ANTENNA (FM) (AEP, UK, AED, G, IT)	
	1-501-695-11	ANTENNA, FM (E, AR, AUS, EA, HK, MX, MY, SP)	
	1-501-721-11	ANTENNA (LOOP)	
	1-777-635-11	CORD (FOR SS-S33D) (RED)	
	1-777-636-11	CORD (FOR SS-S33D) (WHITE)	
	3-856-227-11	MANUAL, INSTRUCTION (ENGLISH) (UK)	
	3-856-227-21	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, POTUGUESE) (AEP)	
	3-856-227-31	MANUAL, INSTRUCTION (GERMAN, DUTCH, ITALIAN) (AEP, IT)	
	3-856-227-41	MANUAL, INSTRUCTION (GERMAN) (G)	
	3-856-227-51	MANUAL, INSTRUCTION (DANISH, FINNISH, SWEDISH) (AED)	
	3-856-227-61	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE) (E, AR, AUS, EA, HK, MX, MY, SP)	
	3-856-227-71	MANUAL, INSTRUCTION (ARABIC) (E3, EA)	
*	4-941-548-01	LABEL, CLASS (1) (FOR HCD-H33D) (EXCEPT UK, MX)	
*	4-980-069-01	CUSHION (CH) (EXCEPT AUS)	
*	4-982-675-01	INDIVIDUAL CARTON (E, AR, HK, MX, MY, SP)	
*	4-982-675-11	INDIVIDUAL CARTON (EA)	
*	4-982-676-11	INDIVIDUAL CARTON (AUS)	
*	4-982-677-01	INDIVIDUAL CARTON (AEP, UK, AED, G, IT)	
	4-984-635-01	FOOT (FOR SS-S33D)	
*	4-985-459-01	WRENCH, HEXAGON SHAFT (FOR SS-S33D)	
*	4-985-469-01	CUSHION SW3 (FRONT) (FOR SS-W33D)	
*	4-985-470-01	CUSHION SW3 (REAR) (FOR SS-W33D)	
*	4-985-472-01	CUSHION SS3 (FOR SS-S33D)	
	4-988-396-01	LID, BATTERY CASE (FOR RM-S11G)	

English
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Sony Corporation
Home A&V Products Company

Published by Quality Engineering Dept. (Shibaura)

HCD-H33D

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

HCD-H33D is the tuner, deck, CD and amplifier section in CHC-P33D.

Photo: AEP Model

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

CD Section	Model Name Using Similar Mechanism	HCD-H801
	CD Mechanism Type	CDM28-5BD19
	Base Unit Name	BU-5BD19
Tape deck Section	Model Name Using Similar Mechanism	HCD-H881
	Tape Transport Mechanism Type	TCM-220WR2

SPECIFICATIONS

CD player section

System: Compact disc digital audio system
Laser: Semiconductor laser (λ=780 nm)
Emission duration: continuous
Laser output: Max 44.6 µW*
* This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Wavelength: 780-790 nm
Frequency response: 2 Hz-20 kHz
Signal-to-noise ratio: More than 65 dB
Dynamic range: More than 97 dB

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range: 87.5-108.0 MHz (50 kHz step)
Aerial: FM lead aerial
Aerial terminals: 75 ohm unbalanced
Intermediate frequency 10.7 MHz

AM tuner section

Tuning range:
AEP, UK, German model:
MW: 531-1,602 kHz
LW: 153-279 kHz
Italian model:
MW: 522-1,611 kHz (9 kHz step)
LW:153-279 kHz
E3 (Tuner Sections SW BAND exist), Saudi Arabia, Hong kong, Malaysia, Singapore model:
MW: 531-1,602 kHz (9 kHz step)
530-1,710 kHz (10 kHz step)
SW: 5.95-17.90 MHz
E2 (Tuner Sections SW BAND do not exist), Mexican, Argentine model:
AM: 531-1,710 kHz (9 kHz step)
AM: 530-1,710 kHz (10 kHz step)
Australian model:
AM: 531-1,602 kHz (9 kHz step)
AM: 530-1,710 kHz (10 kHz step)
Aerial: AM loop aerial
External aerial terminals
Intermediate frequency 450 kHz

Tape player section

Recording system: 4-track 2-channel stereo
Frequency response: (DOLBY NR OFF)
40-13,000 Hz (±3 dB), using Sony TYPEI cassette
40-14,000 Hz (±3 dB), using Sony TYPEII cassette
Wow and flutter: 0.1% WRMS ±0.3% (DIN)

Amplifier section

Peak music power output
600 W

– Continued on next page –

MICROFILM

MINI Hi-Fi COMPONENT SYSTEM

SONY

DIN power output:
Satellite 7 W+7 W (4 ohms at 1 kHz, DIN)
Superwoofer 30 W (6 ohms at 60 Hz, DIN)

Continuous RMS power output
Satellite 10 W+10 W (4 ohms at 1 kHz, 10% THD)
Superwoofer 35 W (6 ohms at 60 Hz, 10%THD)

Music power output
Satellite 15 W+15 W (4 ohms at 1 kHz, 10% THD)
Supperwoofer 45 W (6 ohms at 60 Hz, 10% THD)

Inputs
MD IN Sensitivity 450 mV, impedance 47 kilohms

Output
MD OUT Sensitivity 250 mV, 1 kilohms
PHONES (stereo phone jack)
accept headphones of 8 ohms or more.

General

Destination	Power requirements	Power consumption
AEP, UK, German, Italian model	220-230 V AC, 50/60 Hz	75 W
E, Saudi Arabia, Hong Kong, Singapore, Argentine, Malaysia model	110-120 V/220-240 V AC, 50/60 Hz Adjustable with the voltage selector	
Mexican model	120 V AC, 60 Hz	
Australian model	240 V AC, 50/60 Hz	

Dimensions Approx. 225 × 210 × 235 mm (w/h/d) incl. projecting parts and controls
Mass Approx. 4.8 kg

Design and specifications are subject to change without notice.

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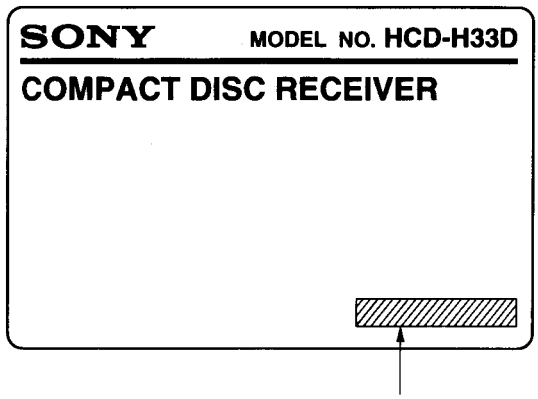
- Abbreviation
  G : German
  IT : Italian

SECTION 1
SERVICING NOTES

MODEL IDENTIFICATION
(Specification Label)



AEP, AED	*4-981-428*
German, Italian	*4-981-429*
UK	*4-981-430*
Argentine, E2, E3, Hong Kong, Malaysia, Singapore	*4-981-431*
EA3	*4-981-432*
Mexican	*4-981-433*
Australian	*4-981-434*

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

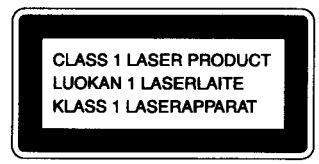
Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

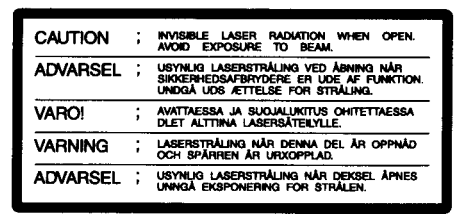
CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.



This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the side exterior.


CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO! ; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING ; LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URKOPPLAD.
ADVARSEL ; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

This caution label is located inside the unit.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

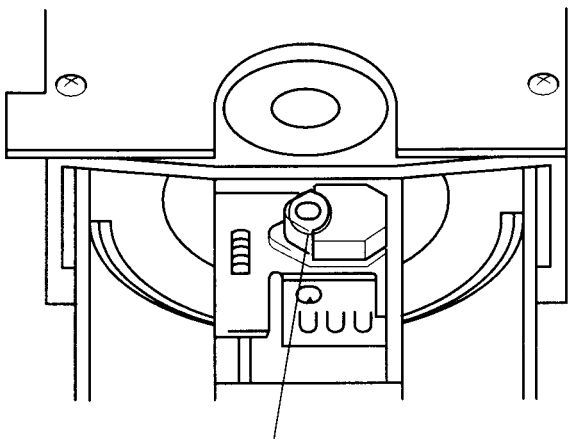
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attenation to electrostaic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTE ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

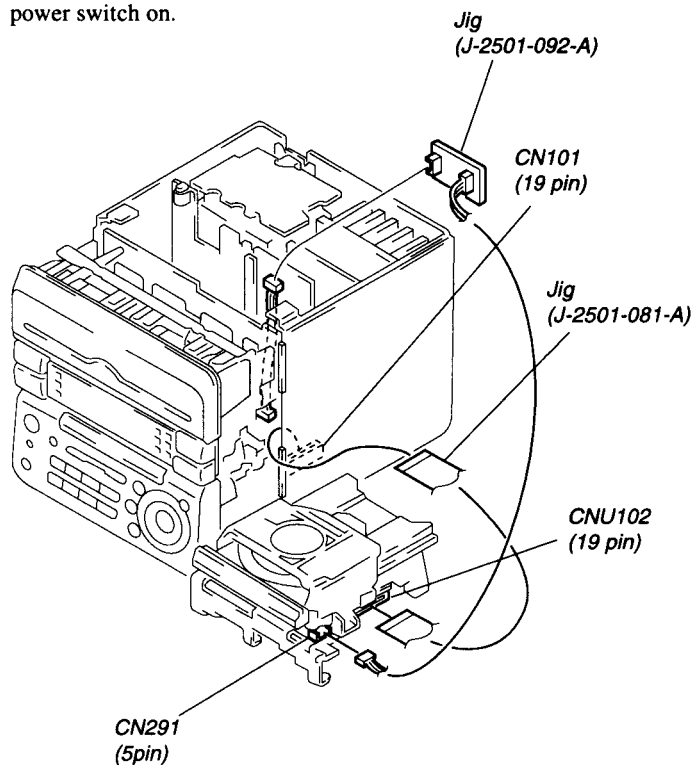
1. Maker POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objective lens.



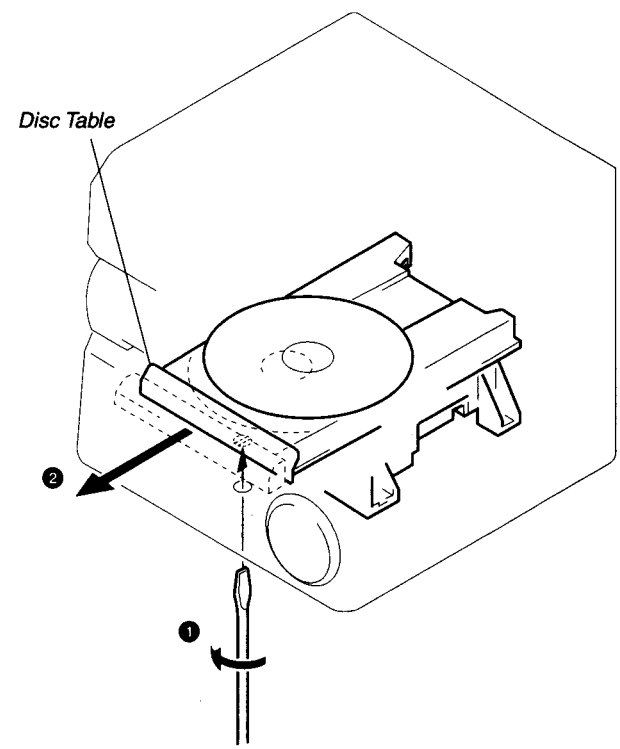
❶ Confirm that laser beam is spread.
❷ Up and down motion of the objective lens. (3 times)

Notes for repairing CD MECHANISM section electric flow.

Two jigs (J-2501-091-A and J-2501-092-A) are necessary for the CD MECHANISM section electric flow.
Connect SET and JIG as shown in the figure below and turn the power switch on.



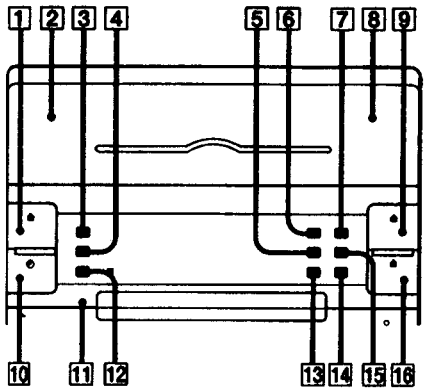
Disc table getting out procedure on the power supply is OFF



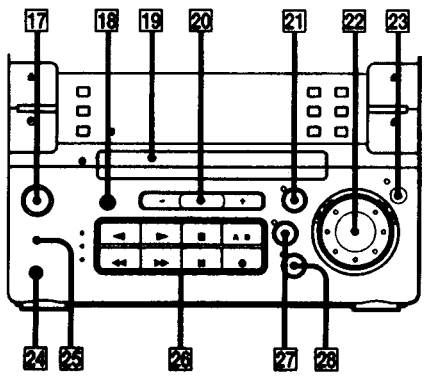
This section is extracted from instruction manual.

Index to Parts and Controls

Front Panel



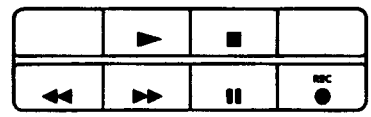
1 ⏏ EJECT DECK A button
2 DECK A
3 DISPLAY button
4 SLEEP button
5 CD CYNCHRO button
6 DOLBY NR button
7 DIRECTION MODE button
8 DECK B
9 ⏏ EJECT DECK B button
10 TIMER SELECT button
11 CLOCK SET button
12 TIMER SET button
13 PLAY MODE button
14 REPEAT button
15 HI-SPEED DUBBING button
16 ⏏ OPEN/CLOSE CD button



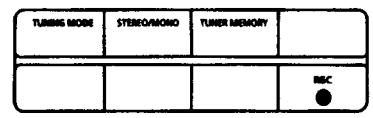
17 SYSTEM POWER ON/STANDBY button
18 FUNCTION button
19 Disc tray
20 VOLUME +/– button
21 TAPE button and lamp
22 Jog dial
23 ENTER/NEXT button
24 PHONES jack (stereo phone jack)
25 WOOFER LEVEL button
26 Operating buttons*
27 TUNER/BAND button and lamp
28 CD button and lamp

* Operating buttons
The buttons you can operate for CD player, tuner, or tape player light up.

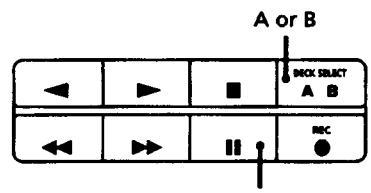
CD player



Tuner



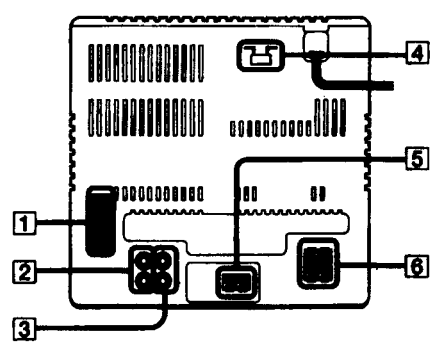
Tape player



When you select deck B, ▮▮ lights up.

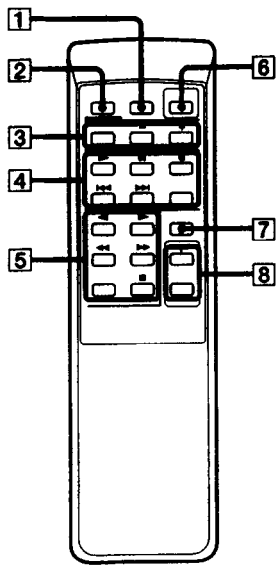
Note
A or B lights up when you operate CD player or tuner. However, you can ignore it.

Rear Panel



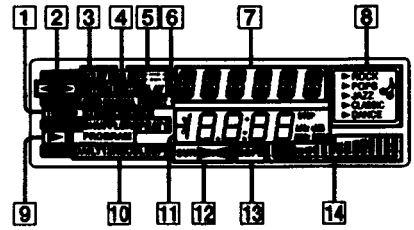
[1] Aerial terminals
[2] MD OUT jacks
[3] MD IN jacks
[4] Voltage Selector
(E, Saudi Arabia, Argentine, Hong Kong, Mexican, Malaysia, Singapore model)
[5] Woofer connectors
[6] Speaker connectors

Remote



[1] SLEEP button
[2] DBFB button
[3] Tuner operating buttons
BAND button
PRESET +/– button
[4] CD operating buttons
► (play) button
II (pause) button
■ (stop) button
I◄◄ /►►I button
EDIT button
[5] Tape operating buttons
◄/► (reverse side/front side) play buttons
■ (stop) button
◄◄/►► buttons
DECK SELECT button
[6] SYSTEM POWER switch
[7] SELECT 1 – 5 button
[8] VOLUME +/– buttons

Display Window

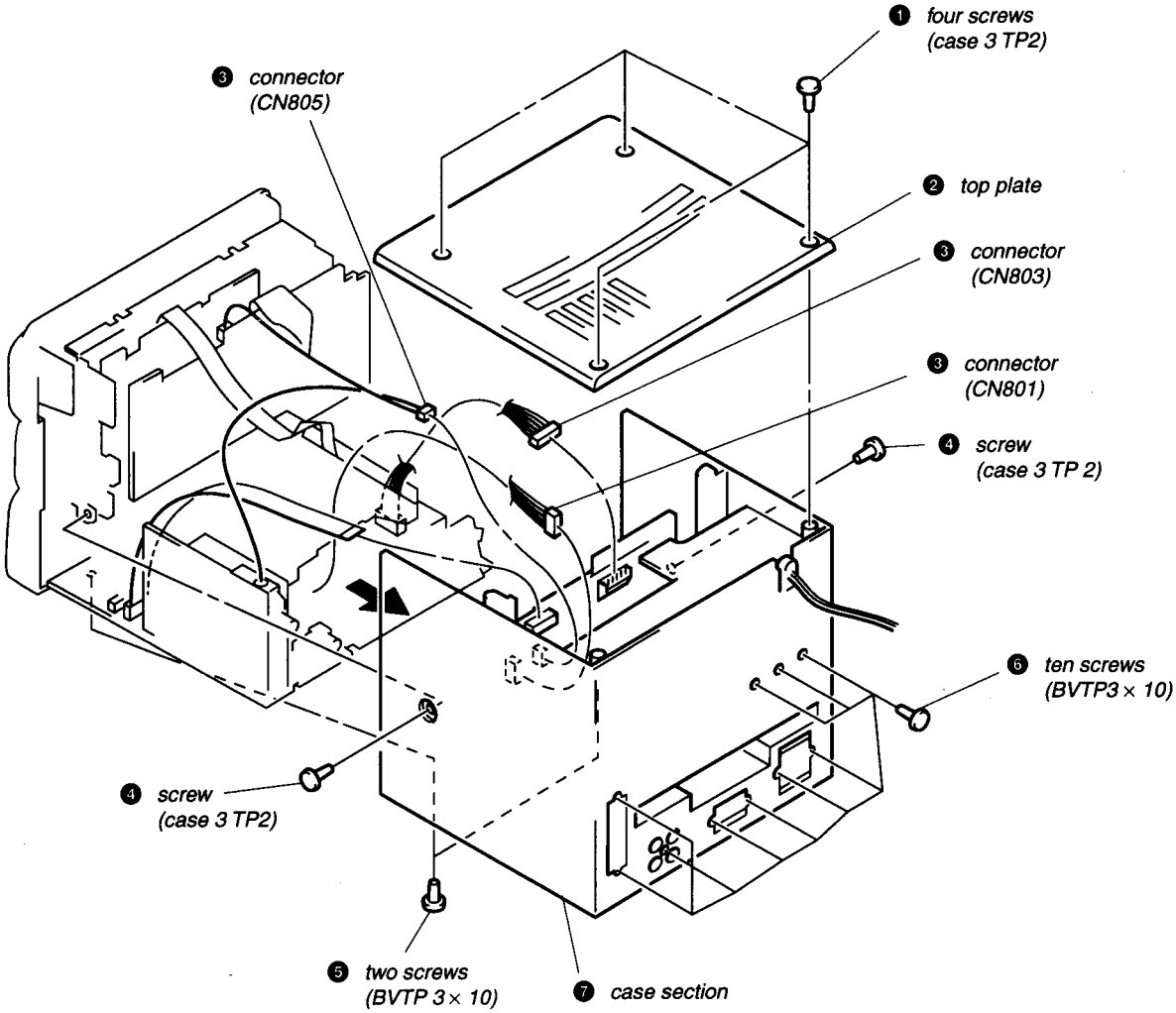


[1] Tuner indications
[2] Tape play indications
[3] DOLBY NR indication
[4] CD SYNCHRO indication
[5] Tape direction indications
[6] AUTO/MANUAL/PRESET indications
[7] Function indications
[8] Audio emphasis indications
[9] CD play mode indications
[10] Timer indications
[11] Frequency/time indication
[12] SUR indication
[13] DBFB indication
[14] VOLUME indication

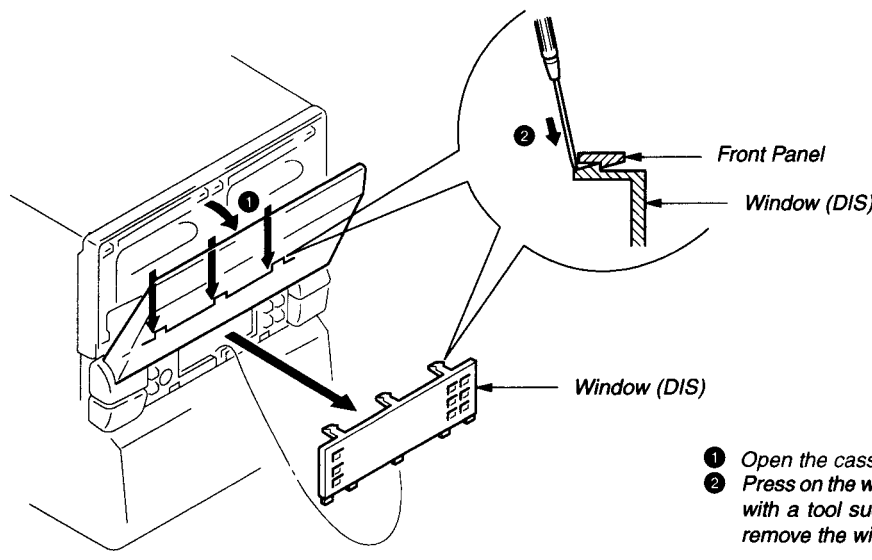
SECTION 3
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

CASE SECTION

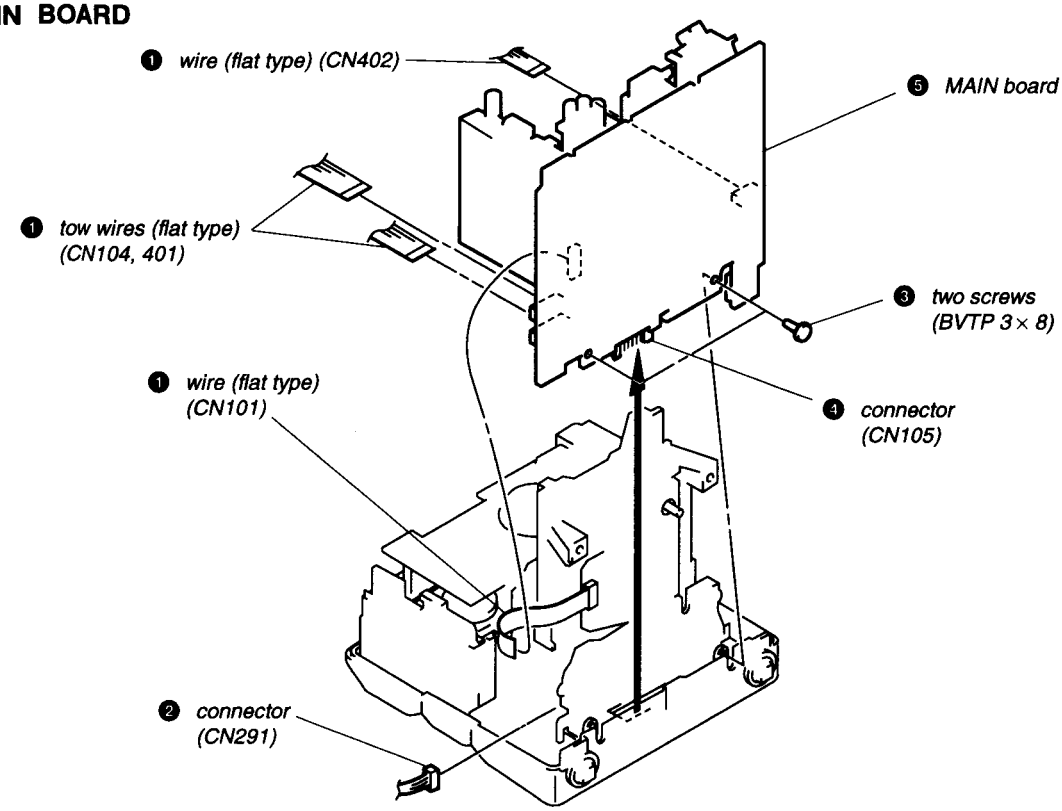

❶ four screws (case 3 TP2)
❸ connector (CN805)
❷ top plate
❸ connector (CN803)
❸ connector (CN801)
❹ screw (case 3 TP 2)
❻ ten screws (BVTP3 × 10)
❹ screw (case 3 TP2)
❺ two screws (BVTP 3 × 10)
❼ case section

• *TO ADJUST THE AZIMUTH*

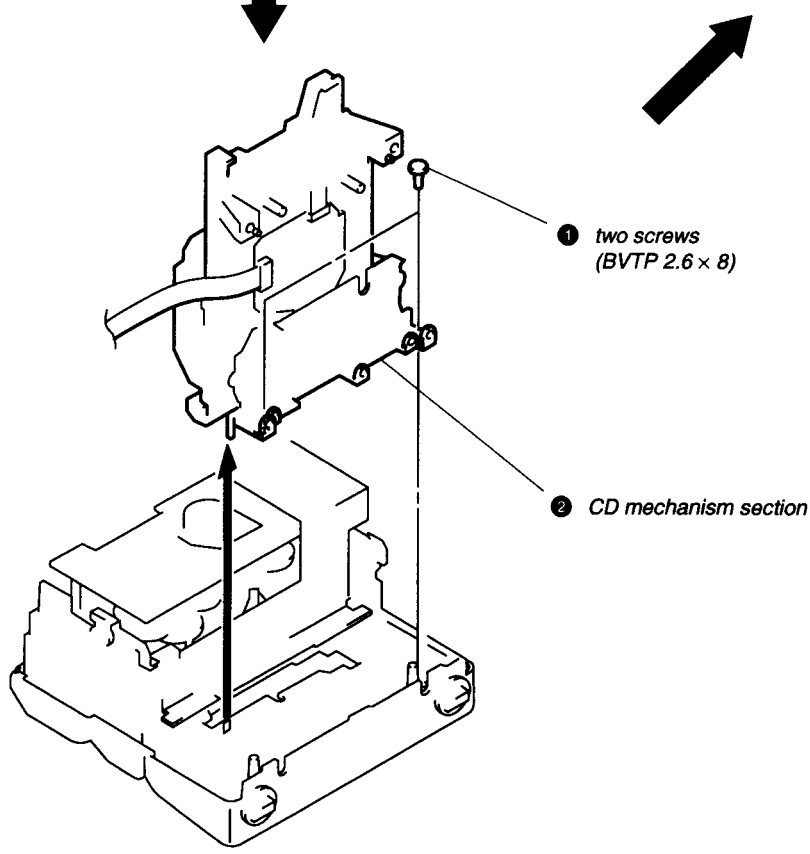


❶ *Open the cassette lid.*
❷ *Press on the window (DIS) clips (3 locations) with a tool such as a thin screwdriver and remove the window (DIS).*

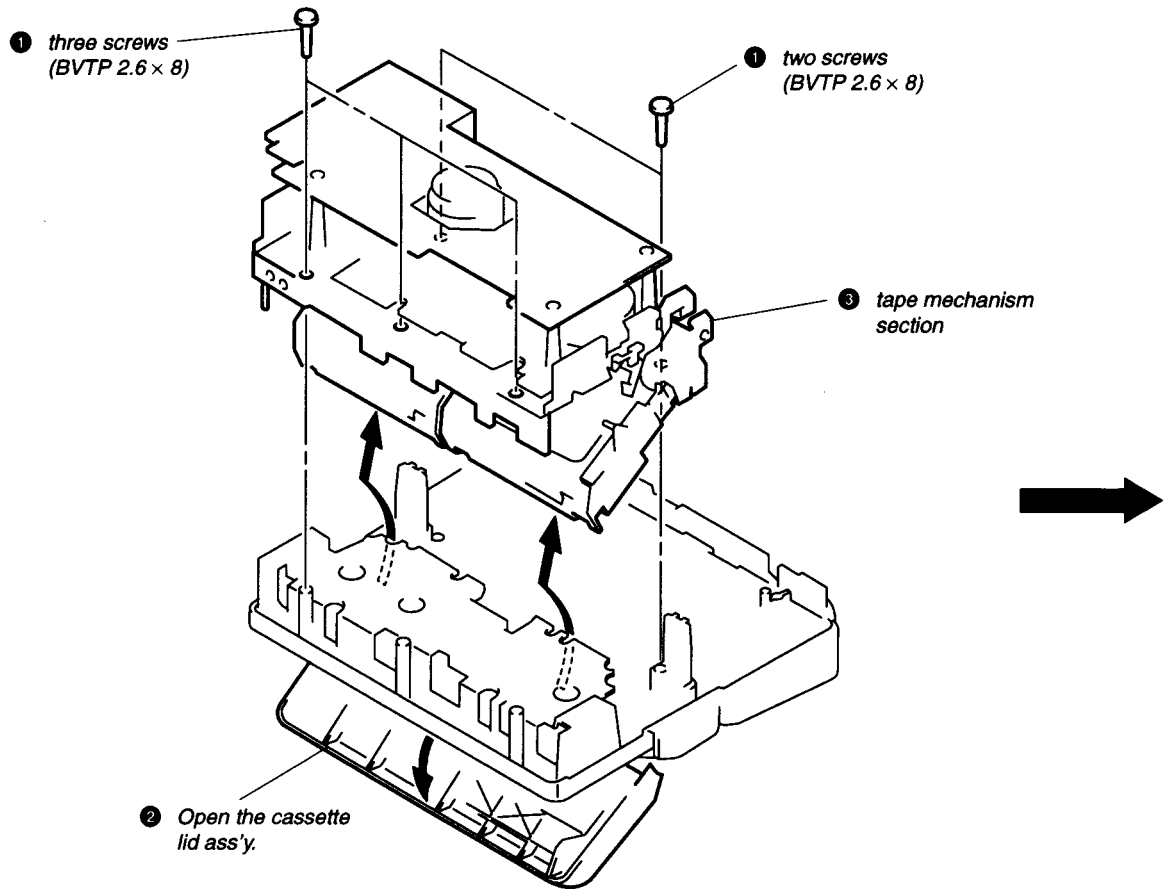
MAIN BOARD


❶ wire (flat type) (CN402)
❺ MAIN board
❶ tow wires (flat type) (CN104, 401)
❸ two screws (BVTP 3 × 8)
❶ wire (flat type) (CN101)
❹ connector (CN105)
❷ connector (CN291)

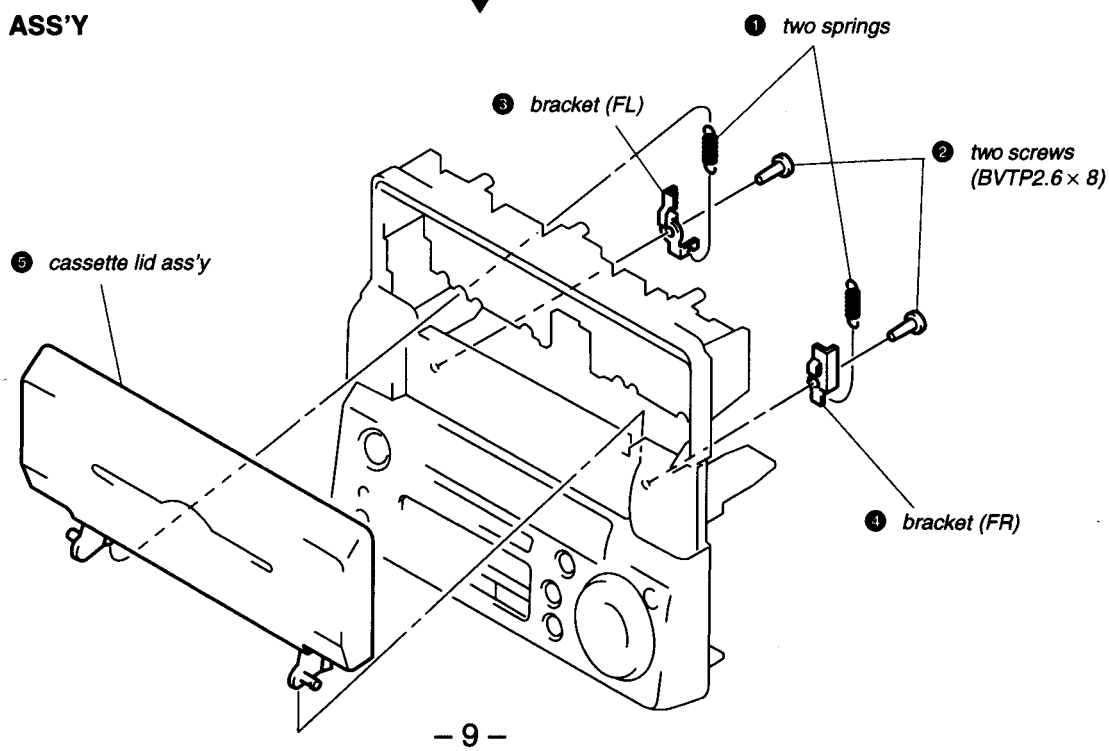
CD MECHANISM SECTION



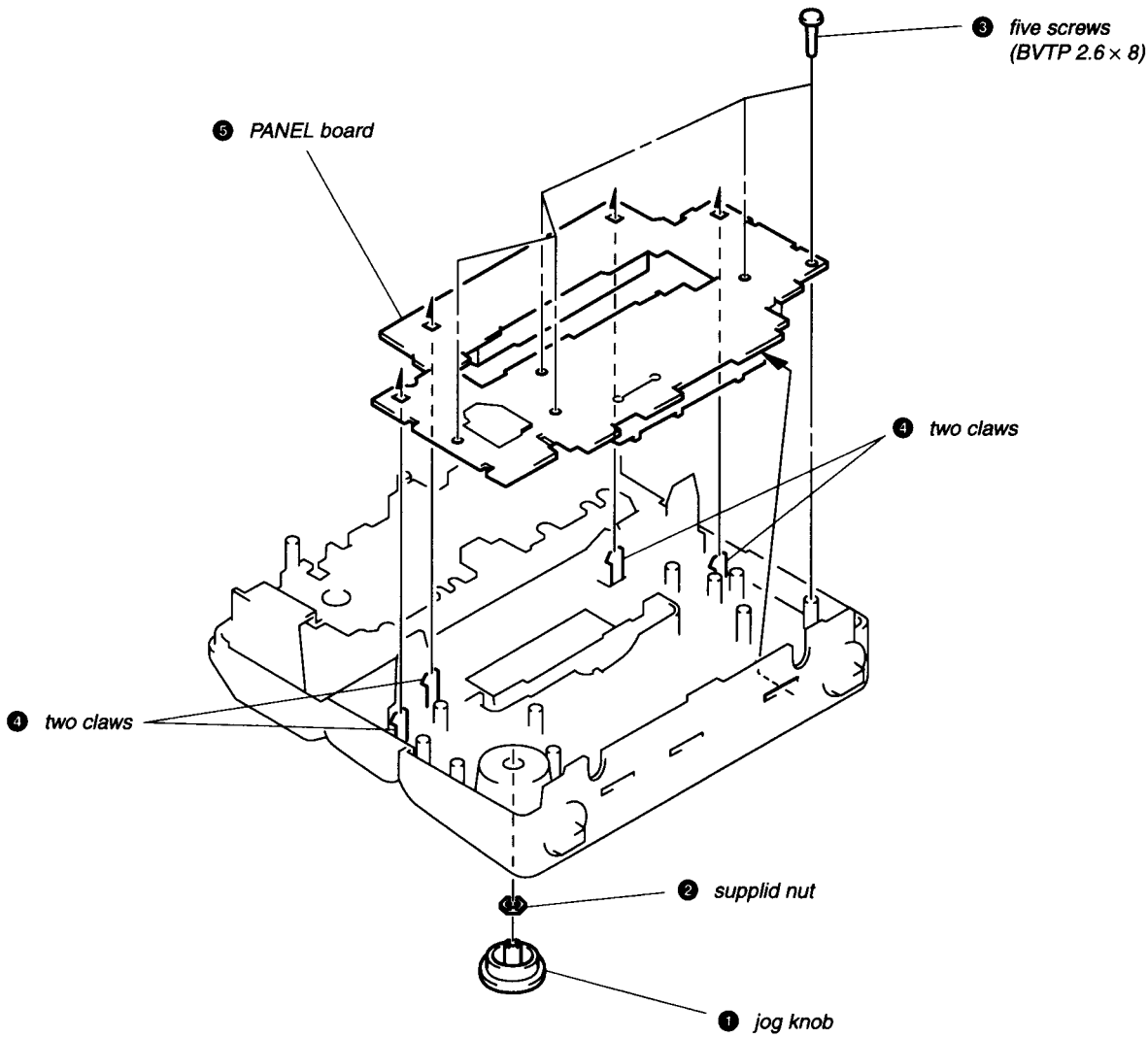
TAPE MECHANISM SECTION



CASSETTE LID ASS'Y



PANEL BOARD


❸ five screws
(BVTP 2.6 × 8)
❺ PANEL board
❹ two claws
❹ two claws
❷ supplid nut
❶ jog knob

SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab:

record/playback head	pinch roller
erase head	rubber belts
capstan	idlers

2. Demagnetize the record/playback head with a head damagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

• Torque Measurement

Mode	Torqu Meter	Meter Reading
Foward	CQ-102C	36 to 61 g•cm (0.50 – 0.84 oz•inch)
Forward Back Tension	CQ-102C	2 to 6 g•cm (0.026 – 0.082 oz•inch)
Reverse	CQ-102RC	36 to 61 g•cm (0.50 – 0.84 oz•inch)
Reverse Back Tension	CQ-102RC	2 to 6 g•cm (0.026 – 0.082 oz•inch)
FF, REW	CQ-201B	61 to 143 g•cm (0.85 – 1.98 oz)

• Tape Tension Measurement

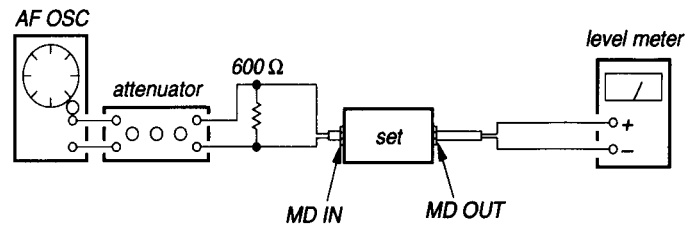
Mode	Torque Meter	Meter Reading
Forward	CQ-403A	more than 100 g (3.53 oz)
Reverse	CQ-403R	more than 100 g (3.53 oz)

SECTION 5
ELECTRICAL ADJUSTMENTS

DECK SECTION

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   • Switch position
   DOLBY NR switch : OFF
   TIMER switch : OFF
   DIRECTION MODE switch : ⇄
3. Deck section electrical adjustment are made in test mode by pressing TUNER/BAND, DISPLAY, and FUNCTION at the same time.

– Record Mode –



• Test Tape

Tape	Contents	Use
P-4-A100	10 kHz, –10 dB	Head Azimuth Adjustment
P-4-L300	315 Hz, 0 dB	Level Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment

0dB = 0.775V

Record/Playback Head Azimuth Adjustment

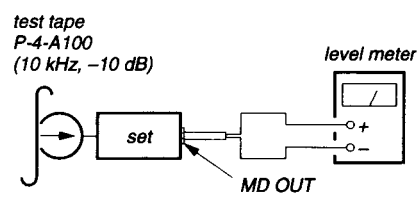
DECK A | DECK B

• Setup for adjustment

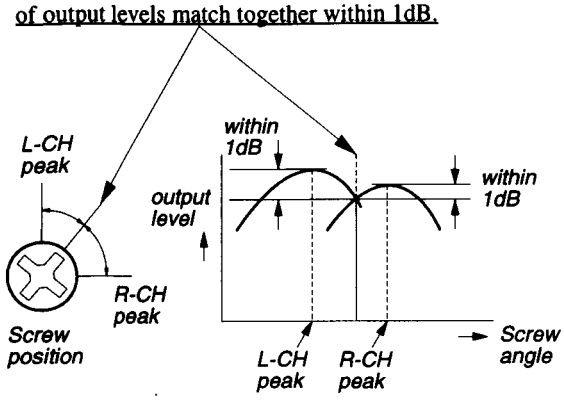
When adjusting the azimuth, remove the Window (DIS) in the center of the front panel. (Refer to page 7.)

Procedure :

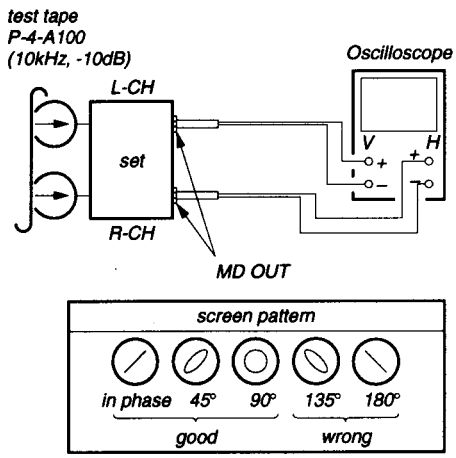
1. Mode : Forward Playback



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.



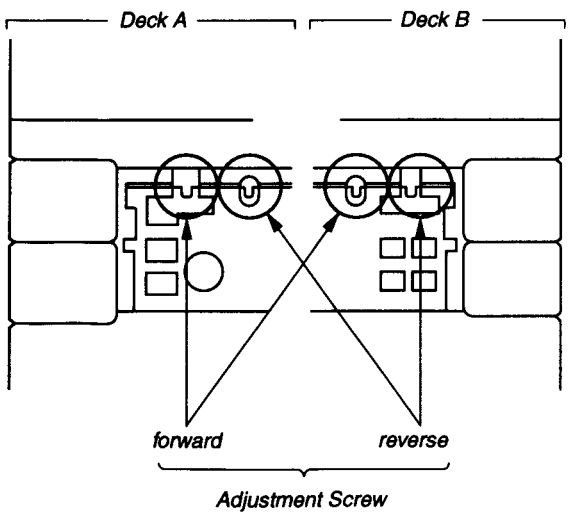
3. Mode : Forward Playback



4. Change the reverse playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screw with suitable locking compound.

Adjustment Location :

–record/playback head (Deck A and B)

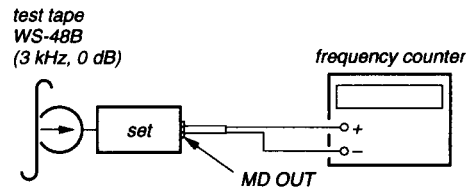


Tape Speed Adjustment DECK A DECK B

Procedure :

- Perform high speed adjustment before normal speed adjustment.

Mode : Playback



Speed	Deck	Adjustment	Frequency counter
*High	A	RV652	5,940 to 6,060 Hz
	B	RV652	
Normal	A	RV651	2,990 to 3,030 Hz
	B	RV651	

* Continuous to press HIGH SPEED DUBBING switch (S507) in playback mode : High speed playback.

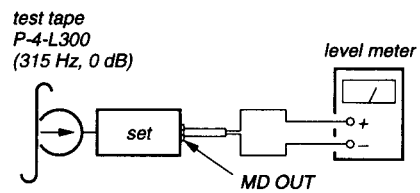
Frequency difference between the beginning and the end of the tape should be within ± 3%.
Frequency difference between deck A and deck B the beginning of the tape should be within 1.5%.

Adjustment Location : AUDIO board (see page 13)

Playback Level Adjustment DECK A DECK B

Procedure :

Mode : Playback



Deck A is RV311 (L-CH) and RV411 (R-CH), deck B is RV301 (L-CH) and RV401 (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level :

OUTPUT level : –3.5 ± 0.5 dB (0.489 to 0.546 V)
Level Difference between Channels : within 0.5 dB

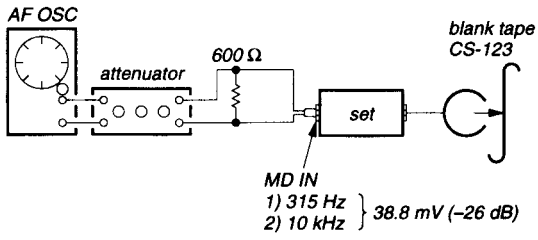
Confirm the OUTPUT level dose not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : AUDIO board (see page 13)

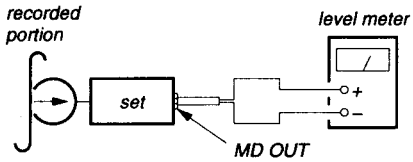
Record Bias Adjustment DECK B

Procedure :

1. Mode : Record



2. Mode : Playback



3. Confirm playback the signal recorded in step 1 become adjustment level as follows.
4. If these levels do not adjustment level, adjustment the RV341 (L-CH) and RV441 (R-CH) to repeat step 1 and 4.

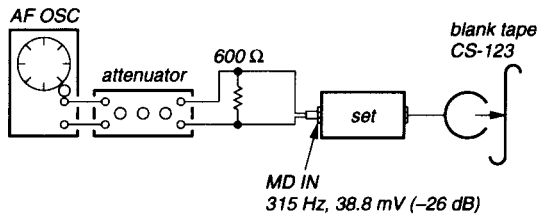
Adjustment level :
Playback output of 315 Hz to playback output of 10 kHz : –0.5 dB to 0.5 dB. (–1.3 to 1.3 mV)

Adjustment Location : AUDIO board

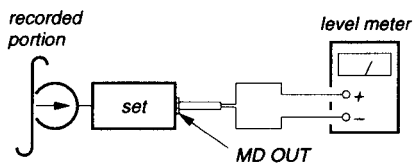
Record Level Adjustment DECK B

Procedure :

1. Mode : Record



2. Mode : Playback



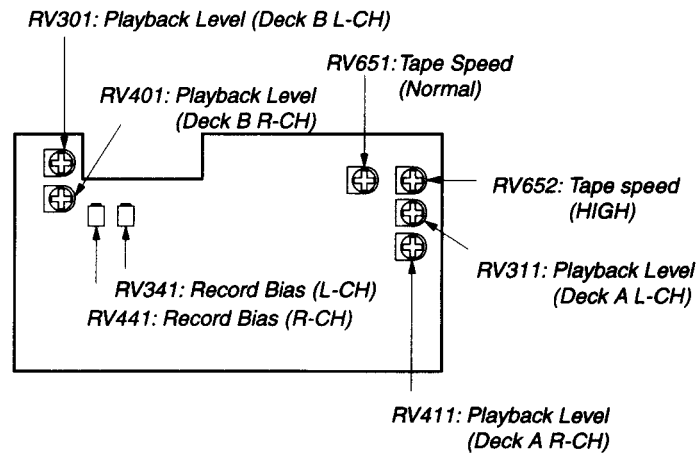
3. Confirm playback the signal recorded in step become adjustment level as follows.
4. If these levels do not adjustment level, adjust the RV401 (L-CH) and RV451 (R-CH) to repeat step 1 and 4.

Adjustment Level :
OUTPUT level : –26 dB ± 0.5 dB (36.7 to 41.1 mV)

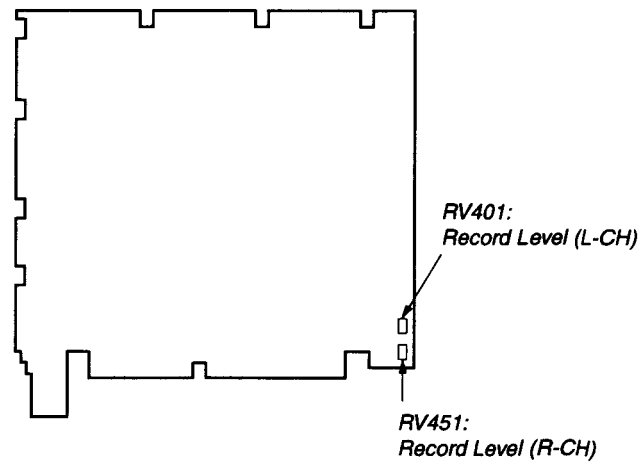
Adjustment Location : MAIN board

Adjustment Location :

[AUDIO BOARD] – Conductor side –



[MAIN BOARD] – Component side –



TUNER SECTION

Precautions in Repairing

Note. 1 : The adjustment should be performed in the publication. (MW → FM → SW)

Note. 2 : As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

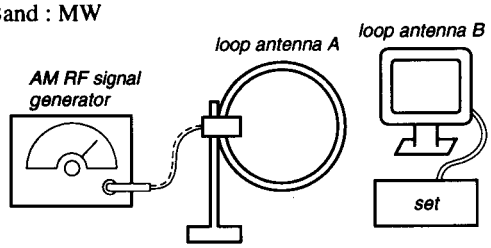
• Abbreviation

E2 : Tuner sections SW BAND do not exist.
E3 : Turner sections SW BAND exist.
EA : Saudi Arabia
MY : Malaysia
SP : Singapore
HK : Hong Kong

AM Tuned Level Adjustment

Setting :

Band : MW



Carrier frequency : 999 kHz (at 9 kHz step) or 1,050 kHz (at 10 kHz step)
Modulation : 400 Hz 30 % modulation

Procedure :

1. Set loop antenna A so that the loop antenna B input level becomes 55 dBμ/m (0.56 mV/m)
2. Tune the set to 999 kHz (at 9 kHz step) or 1,050 kHz (at 10 kHz step).
3. Adjust RV41 so that the TUNED indicatior goes on.

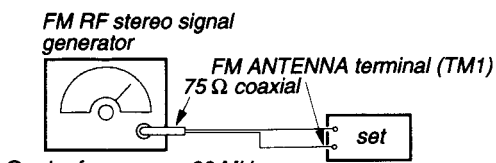
Adjustment Location : TCB board (see page 15)

FM Tuned Level Adjustment

Note : Always make the tuning level adjustment first. (Since it affects the FM tuning level).

Setting :

Band : FM



Carrier frequency : 98 MHz
Modulation : 1 kHz, 75 kHz (100%)
Output level : 0.018 mV (25 dB μ)

Procedure :

1. Tune the set to 98 MHz
2. Adjust RV42 so that the TUNED indicatior goes on.

Adjustment Location : TCB board (see page 15)

SW OSC Voltage Adjustment (E3, EA, MY, SP, HK model)

Setting :

Band : SW

Procedure :

1. Connect digital Voltmeter to diode D1 center lead and ground.
2. Adjust for a following value reading on digital Voltmeter.

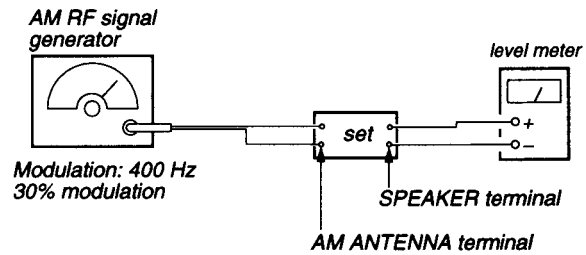
	Set frequency	Adjustment part	Reading on digital voltmeter
SW	5.95 MHz	T2	1.2 Vdc
	17.9 MHz	CV2	8.5 Vdc

Adjustment Location : TCB board (see page 15)

SW Tracking Adjustment (E3, EA, MY, SP, HK model)

Setting :

Band : SW



Procedure :

Adjust for maximum reading on level meter.

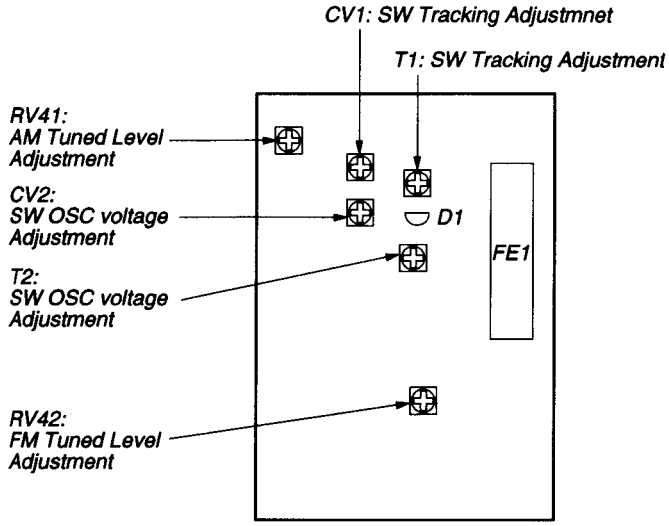
	Set frequency	Adjustment part
SW	7 MHz	T1
	17 MHz	CV1

• Repeat the procedures is each adjustment several times, and the frequency coverage and tracking adjustment should be finally done by the trimmer capacitors.

Adjustment Location : TCB board (see page 15)

Adjustment Location

[TCB BOARD] – Component side –



CD SECTION

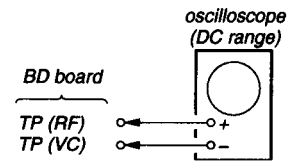
Note :

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicatior with neutral detergent when the signal level is low than specified value with the following checks.

Focus Bias Adjustment

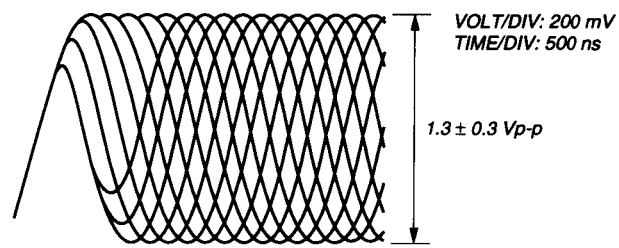
This adjustment is to be done when the optical block is replaced.

Adjustment procedure :



1. Connect oscilloscope to test point TP (VC) and TP (RF) on BD board.
2. Ground main board IC101 (pin ⑧③) with the lead wire.
3. Turned power switch ON. (Stop mode)
4. Put disc (YEDS-18) in and press the ► button.
5. Press the ❚❚ button. (Tracking servo ON)
6. Adjust RV101 so that the oscilloscope waveform is as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.
7. After adjustment, remove the lead wire connecd in step 2.

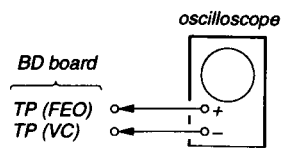
• RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

Adjustment Location : BD board (see page 16)

S-Curve Check

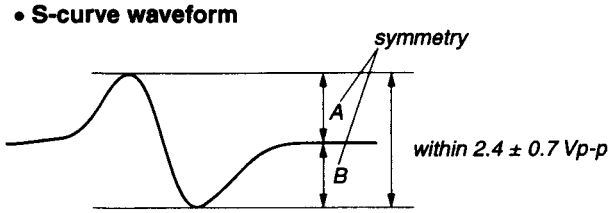


Procedure :

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FOK) and TP (GND) by lead wire.
3. Turned Power switch on.

4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 2.4 ± 0.7 Vp-p.

• S-curve waveform

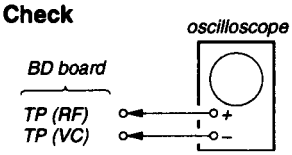


6. After check, remove the lead wire connected in step 2.

Note : • Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

Adjustment Location : BD board (see page 16)

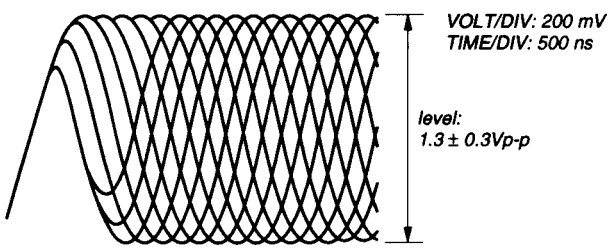
RF Level Check



Procedure :
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and press the ► button.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

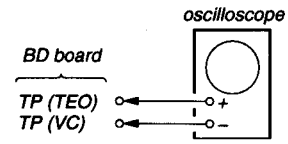
Note :
Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

• RF signal waveform



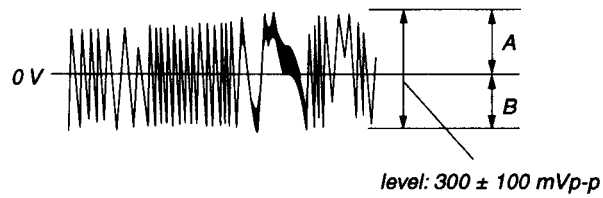
Adjustment Location : BD board (see page 16)

E-F Balance Check



Procedure :
1. Ground MAIN board IC101 (pin ⑬) with the lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and press the ► button.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0 Vdc, and check this level.

• Traverse waveform



specified level : • $\frac{A-B}{2(A+B)} \times 100$ = less than ± 7%

• A+B= 300 ± 100 mVp-p

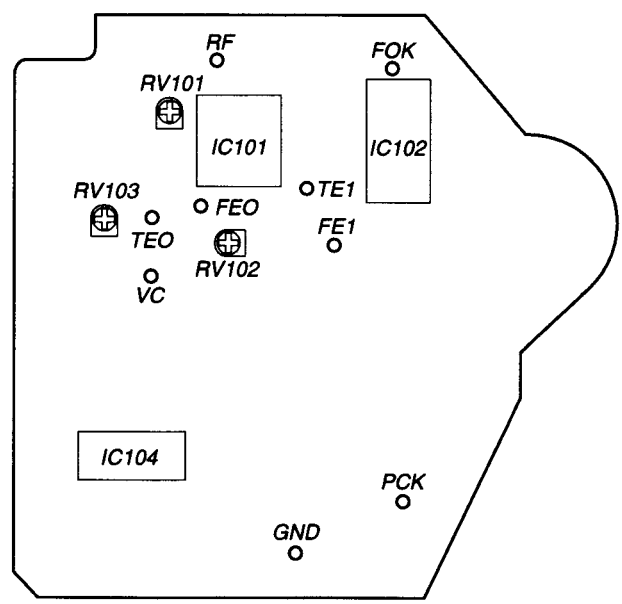
6. Remove the lead wire connected in step 1.

Focus/Tracking Gain Adjustment (RV102, RV103)

This gain has a margin, so even if it is slightly off. There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Location :

[BD BOARD] – Side B –



SECTION 6
DIAGRAMS

6-1. IC PIN FUNCTION DESCRIPTION
MAIN BOARD IC101 TMP87CP64YF-6396 (MASTER CONTROL)

Pin No.	Pin Name	I/O	Function
1	Vss	—	Ground
2	X OUT	O	Main system clock (10 MHz)
3	X IN	I	
4	$\overline{\text{RESET}}$	I	Reset signal input terminal
5	X OUT	O	Sub system clock (32 kHz)
6	X IN	I	
7	GND <TEST>	—	Ground
8	$\overline{\text{BACK UP}}$	I	BACK-UP mode input terminal
9	COUNT. SW	—	Not used (Connected to Ground)
10	INIT. SW	—	Not used (Connected to Ground)
11	DISC SENS	—	Not used (Connected to Ground)
12	MID SENS	—	Not used (Connected to Ground)
13	CD-XRST	O	CD Reset output "L": RESET
14	POWER	O	Power on output "L": ON
15	MUTE	O	Mute output "L": MUTE
16	MPX	—	Not used (Open)
17	KEYCON. LATCH	O	HIGH LED drive signal output
18	VOL. LATCH	O	Latch output to volume control (TC9210)
19	ST MUTE	O	Mute signal output for tuner
20	ST FM	—	Not used (Open)
21	FUNC. A	O	Function Select
22	FUNC. B	O	
23	FUNC. C	O	
24	GEQ. LATCH	O	Latch output to gray control (M6243)
25	RDS-INT	I	Not used (Pull up)
26	SCOR <DSP>	I	Sub code sync SO+SI detection input from DSP (CXD2507AQ)
27	CIN/SENS	I	SENS input from DSP (CXD2507AQ)
28	CD. POWER	O	CD Power on output "H": ON
29	CDG_LATCH	—	Not used (Open)
30	DBFB 1-2	O	MID LED drive signal output
31	MUTE	O	LOW LED drive signal output
32	CE	O	Chip enable output to tuner PLL IC (LC72130)
33	STEREO	I	FM/AM Stereo identification "L": STEREO
34	TUNED	I	FM/AM Tuning identification "L": TUNING
35	SQ-RDS-CLK	O	Sub-code Q data scanning clock output to DSP (CXD2507AQ)
36	SQ-RDS. D1	I	Sub-code Q data input from DSP (CXD2507AQ)
37	RDS-RESET	—	Not used (OPEN)
38	CLK	O	System clock output
39	D. IN	I	Serial data input from tuner
40	D. OUT	O	Serial data (COMN) output

FUNCTION	FUNC A	FUNC B	FUNC C
ST	L	L	H
CD	L	H	H
TC	H	L	H
MD	H	H	L

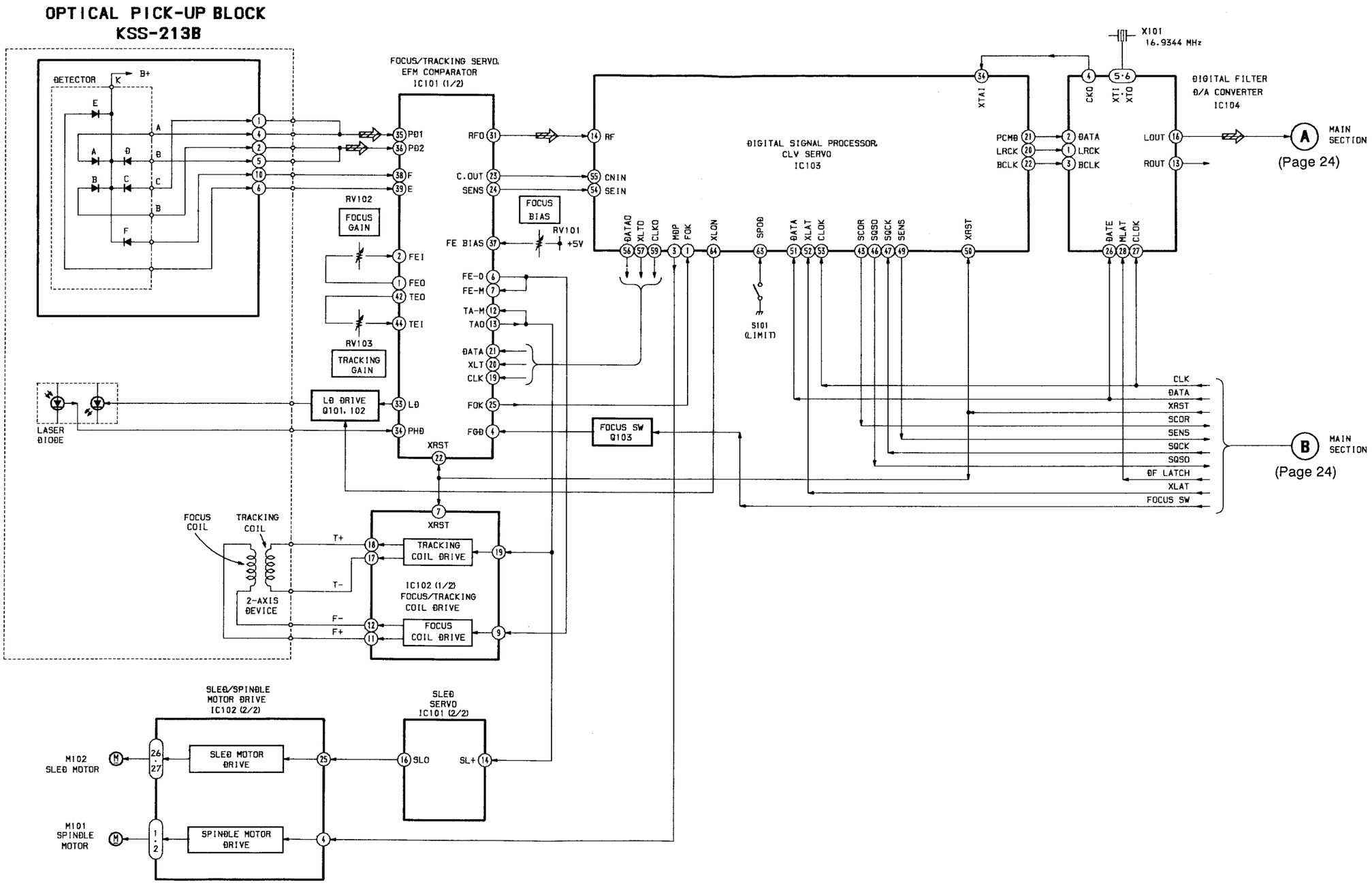
Pin No.	Pin Name	I/O	Function
41	TABLE SENS	I	WOOFER LEVEL switch signal input
42	REQ. GM	I	Data transmission request input from system control
43	REQ. MG	O	Not used (Pull up)
44	CLK. MG	O	Clock output for communications with system control
45	D. GM	I	Serial data input from system control
46	D. MG	O	Serial data output to system control
47	RDY	I/O	System control Ready signal input/output "L": READY
48	VAREF	I	Analog reference voltage input (+5 V)
49	VASS	—	Analog Ground
50	Vss	—	Ground
51	VDD	—	Power supply (+5 V)
52	URGENT. SIG	I	Not used (Pull up)
53	URGENT. STBY	I	Not used (Open)
54	BUG Y/N	—	Not used (Pull up)
55	ADJUSTOR	—	Not used (Pull up)
56	ADJUST 2	—	Not used (Pull up)
57	MAGIC SPEED	—	Not used (Pull up)
58	SPEC	I	Not used (Pull up)
59	DIST	I	Model Selection input (A/D converter)
60	SPEED	—	Not used (Pull up)
61	BREAK	—	Not used (Pull up)
62	B-PLAY	I	Deck-B PLAY switch input "H": PLAY
63	B-SHUT	I	Deck-B Reel table signal input
64	B-HALF	I	Deck-B Record prevention claw A, B detection input
65	A-SHUT	I	Deck-A Reel table signal input
66	A-PLAY	I	Deck-A PLAY Switch input "H": PLAY
67	A-HALF	I	Deck-A HALF Switch input
68	CAPM H/L	O	Capstan motor speed selector "H": Normal speed "L": High speed
69	CAPM ON/OFF	O	Capstan motor ON/OFF "L": ON
70	TRIG H/L	O	Trigger motor control output
71	B TRG	O	
72	A TRG	O	
73	RELAY	O	Control output to REC/PB select switch (IC602) "H": REC
74	A/B	O	Dolby IC PB input Deck A/B select output "L": A, "H": B
75	NORM/HIGH	O	EQ Select switch output for normal/high speed "H": High speed
76	BIAS ON/OFF	O	BIAS Oscillation ON/OFF control "H": High speed
77	RM ON/OFF	O	REC Mute output "L": MUTE
78	REC/PB	O	Dolby IC REC/PLAY Select output "H": REC
79	NR	O	Dolby ON/OFF Control output "H": ON
80	LM	O	Line Mute output "L": MUTE
81	PASS	O	PASS Amplifier switch output to Dolby IC (IC401)
82	CDG_MUTE	O	Woofer level control signal output
83	UP MOTOR	O	
84	DOWN MOTOR	O	Not used
85	TABLE R	—	Not used (Open)

Pin No.	Pin Name	I/O	Function
86	TABLE L	—	Not used (Open)
87	LOAD OUT	O	Loading motor (M903) Load out output
88	LOAD IN	O	Loading motor (M903) Load in output
89	DF-LATCH	O	Latch output to digital filter (PCM1710U)
90	XLT	O	Serial data latch output to DSP (CDX2507AQ)
91	FOCUS. SW	O	High-region gain down output to focus servo (CXA1782BQ)
92	HIGH DUBB	—	Not used (Pull up)
93	TEST 1	I	Test land (Pull up)
94	OUT. SW	I	CD Tray output detection input "L": OUT
95	IN. SW	I	CD Tray input detection input
96	UP. SW	—	Not used (connected to ground)
97	PANEL. SW	—	Not used (connected to ground)
98	CLOSE. SW	—	Not used (connected to ground)
99	OPEN. SW	—	Not used (connected to ground)
100	VDD	—	Power supply (+5 V)

PANEL BOARD IC501 CXP82612-016Q (DISPLAY CONTROL)

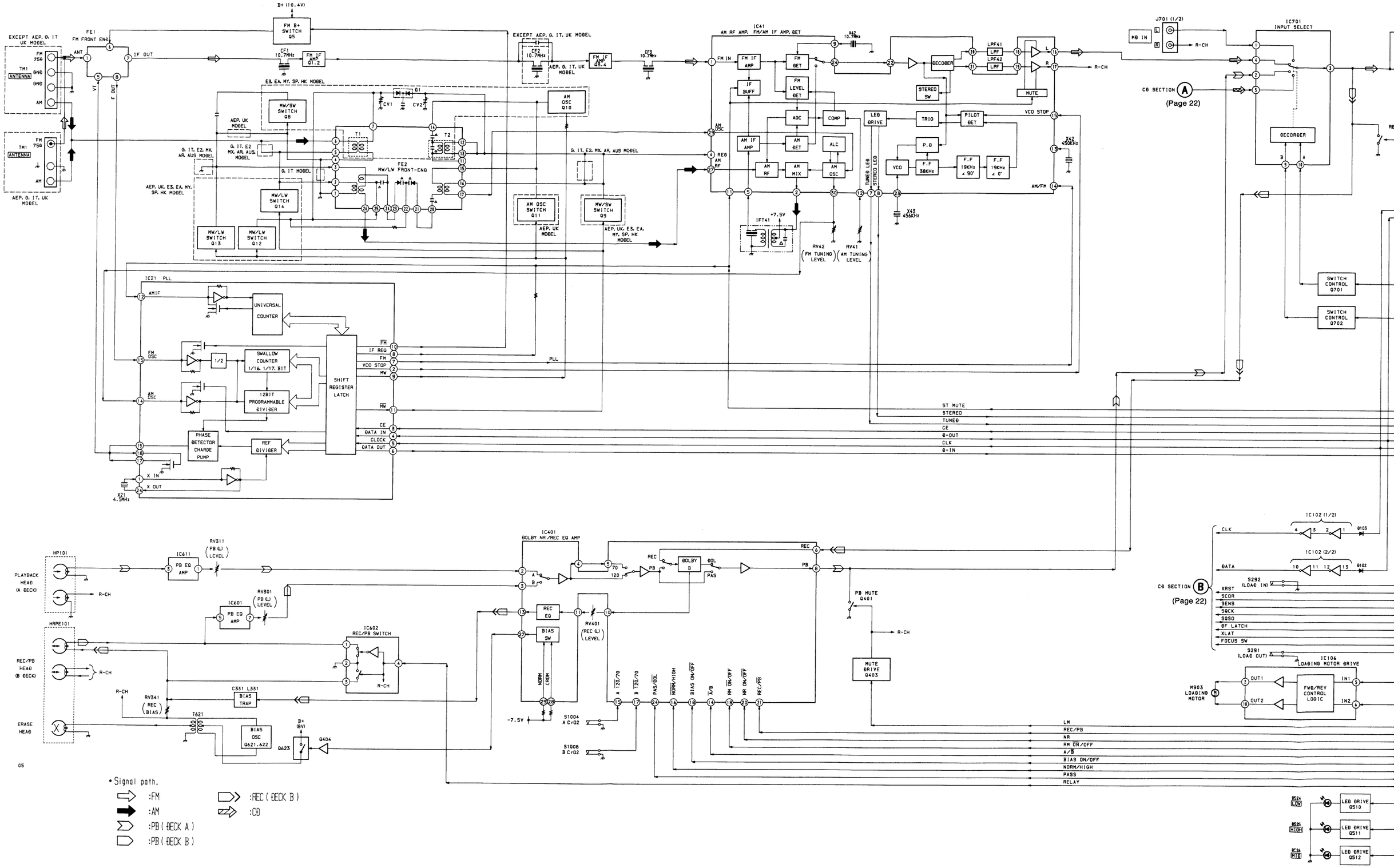
Pin No.	Pin Name	I/O	Function
1	ENC	I	Volume encoder input terminal
2	SIRCS	I	Remote commander signal input
3	REQ. MG	I	Data transmission request input from master control Not used (Pull up)
4	REQ. GM	O	Data transmission request output to master control
5-9	LED	O	LED drive signal Not used (Open)
10	RDY	I/O	Master control Ready signal input/output "L": Ready
11	SCK. IN	I	Clock output for communications with master control
12	SD. IN	I	Serial data input from master control
13	SD. OUT	O	Serial data output to master control
14	LED_PAUSE	O	PAUSE LED Output
15	LED_CD	O	CD LED Output
16	LED_TUNER/BAND	O	TUNER/BAND LED output
17	LED_TAPE	O	TAPE LED Output
18	LED_FWD. STOP. FF & REW	O	►, ■, ◄◄, ►► LED drive signal output
19	LED_DECK_A/B & REV	O	◄, DECK SELECT LED
20	LED_A	O	A LED Output
21	LED_B	O	B LED Output
22	KEY1	I	Not used (Pull up)
23	KEY2	I	Key matrix input (A/D converter)
24	KEY3	I	
25	KEY4	I	
26-29	BPF1-4	I	Not used (Connected to Ground)
30	$\overline{RST}$	I	Reset signal input
31	EXTAL	I	System clock (4 MHz)
32	XTAL	O	
33	Vss	—	Ground
34-62	P29-P1	O	FL Drive
63-69	7G-1G	O	FL grid signal output
70	NC	—	Not used (Open)
71	VFDP	—	LED Driver –25 V power supply
72	VDD	—	Power supply (+5 V)
73, 74	KEY	—	Not used (Pull up)
75	VDD (TEST)	—	Power supply (+5 V)
76	LED_TUNER_COMMON	O	TUNING MODE, STEREO/MONO, TUNER MEMORY LED drive signal output
77	LED_ENTER/NEXT	O	ENTER/NEXT LED drive signal output
78	ENC B	I	AMS encoder signal input
79	ENC A	I	
80	ENC	—	Not used (Pull up)

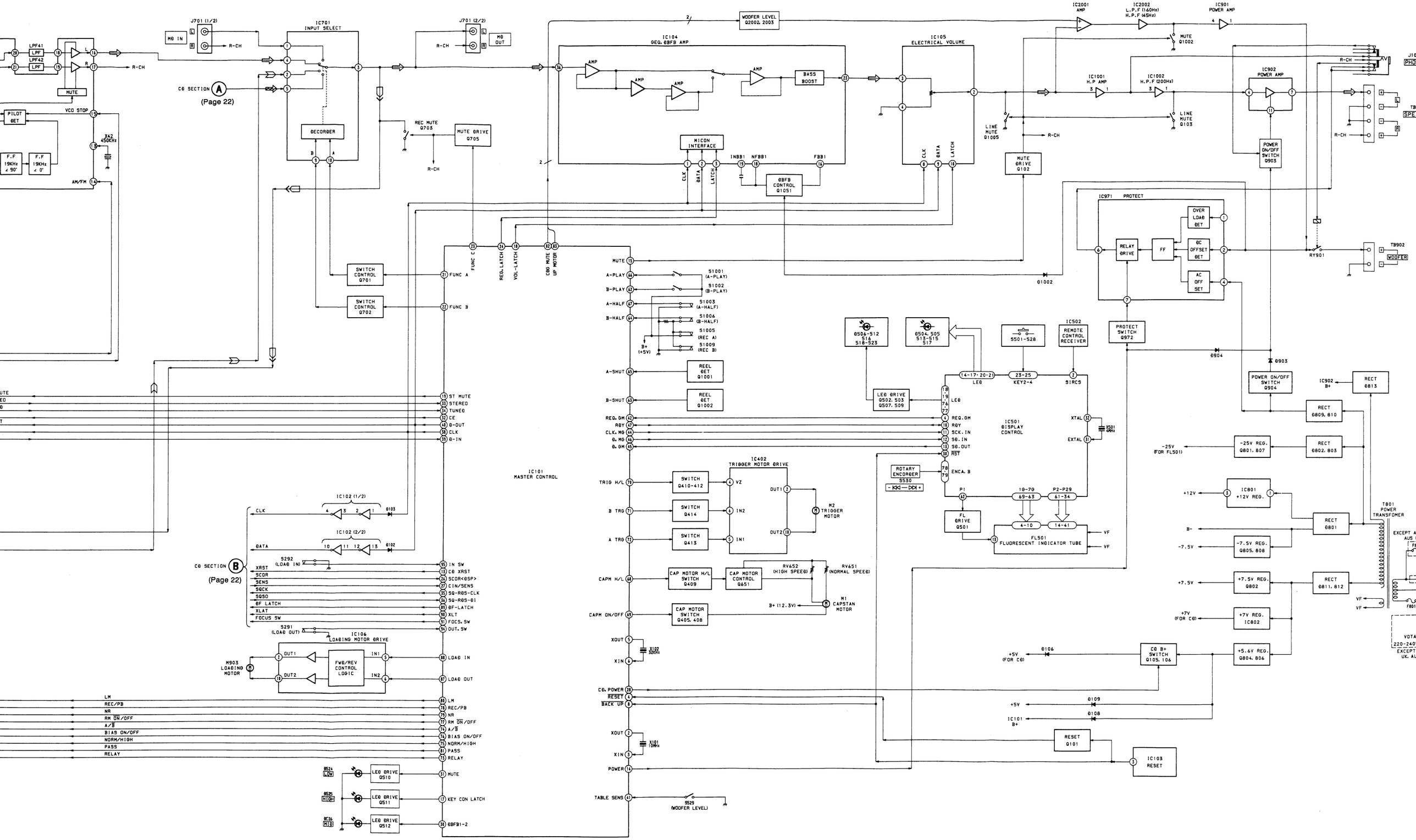
6-2. BLOCK DIAGRAMS
– CD SECTION –

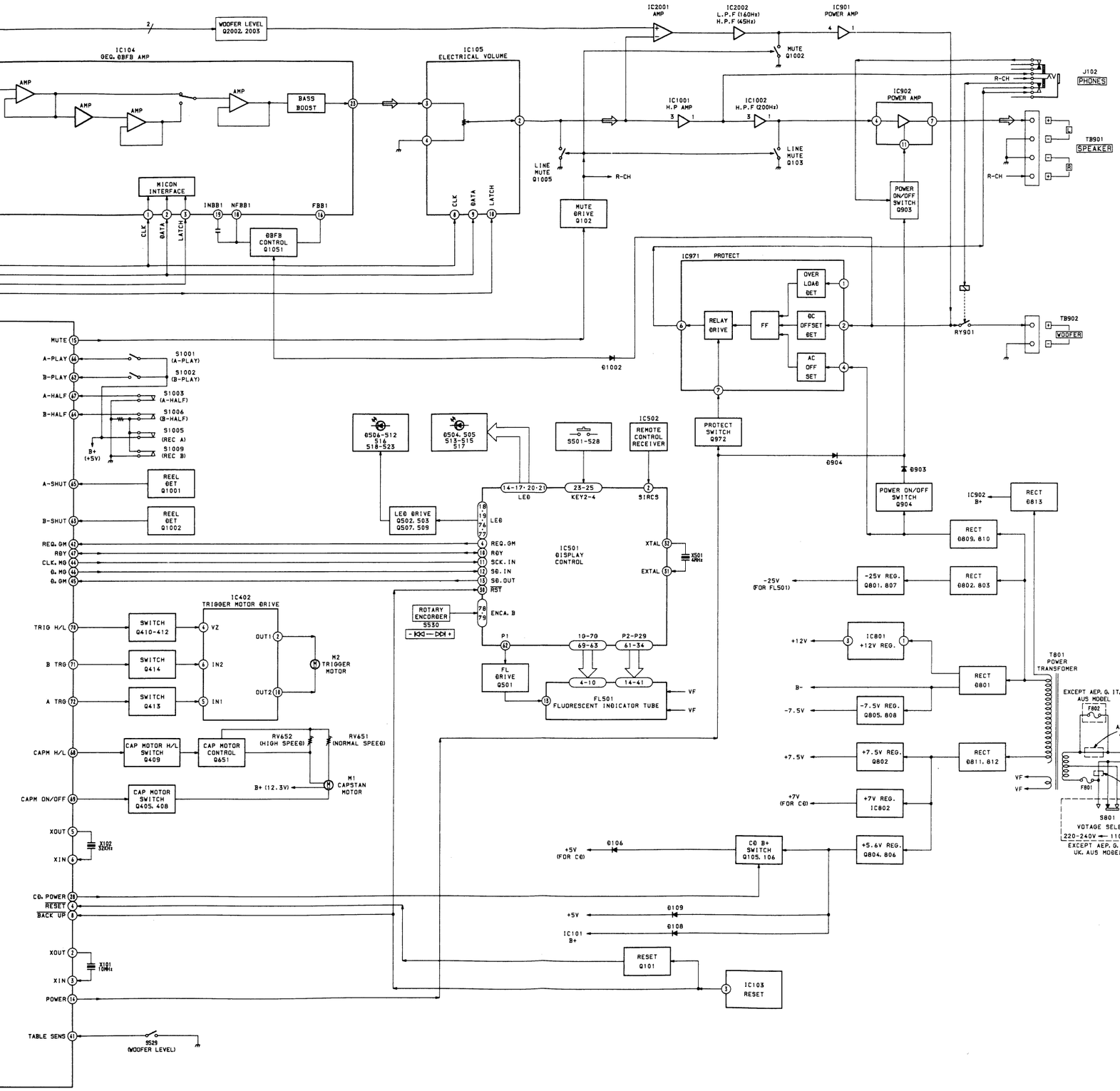


05

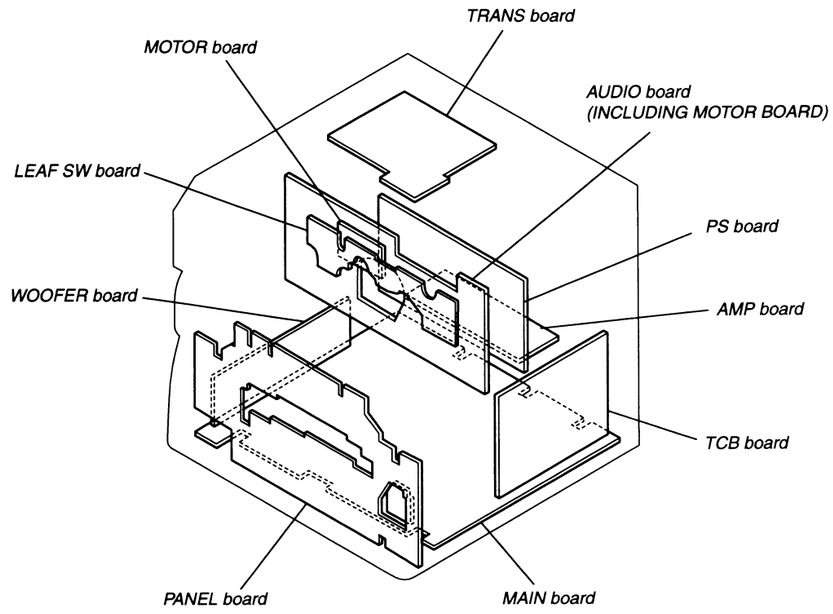
• Signal path.
:CD


B+ (10.4V)
FM B+ SWITCH Q5
EXCEPT AEP, G, IT UK MODEL
FE1 FM FRONT END
ANT
IF OUT
VT
F OUT
CF1 10.7MHz
FM IF AMP Q1,2
CF2 10.7MHz
AEP, G, IT, UK MODEL
FM IF AMP Q3,4
CF3 10.7MHz
IC41 AM RF AMP, FM/AM IF AMP, DET
X42 10.7MHz
FM IN
FM IF AMP
FM DET
IF BUFF
FM LEVEL DET
AM OSC
REG
AM RF
AM IF AMP
AM DET
AM RF
AM MIX
AM OSC
ALC
AGC
COMP
LED DRIVE
TUNED LED
STEREO LED
DECODER
STEREO SW
TRIG
P.D
VCO
F.F 38KHz
F.F 19KHz ∠ 90°
F.F 19KHz ∠ 0°
PILOT DET
VCO STOP
MUTE
LPF41
LPF42
LPF
L
R
R-CH
J701 (1/2)
MD IN
C0 SECTION A (Page 22)
IC701 INPUT SELECT
DECORDER
X42 450KHz
X43 456KHz
AM/FM
E3, EA, MY, SP, HK MODEL
MW/SW SWITCH Q8
CV1
CV2
D1
AEP, UK MODEL
G, IT, E2, MX, AR, AUS MODEL
T1
T2
FE2 MW/LW FRONT-END
G, IT MODEL
MW/LW SWITCH Q14
MW/LW SWITCH Q13
MW/LW SWITCH Q12
AM OSC Q10
AM OSC SWITCH Q11
MW/SW SWITCH Q9
IFT41
+7.5V
RV42 (FM TUNING LEVEL)
RV41 (AM TUNING LEVEL)
IC21 PLL
AMIF
UNIVERSAL COUNTER
FM OSC
AM OSC
1/2
SWALLOW COUNTER 1/16, 1/17, BIT
12BIT PROGRAMMABLE DIVIDER
PHASE DETECTOR CHARGE PUMP
REF DIVIDER
SHIFT REGISTER LATCH
X IN
X OUT
X21 4.5MHz
FM
IF REQ
VCO STOP
MW
CE
DATA IN
CLOCK
DATA OUT
PLL
ST MUTE
STEREO
TUNED
CE
0-OUT
CLK
0-IN
SWITCH CONTROL Q701
SWITCH CONTROL Q702
HP101
PLAYBACK HEAD (A DECK)
IC611 PB EQ AMP
RV311 (PB (L) LEVEL)
IC601 PB EQ AMP
RV301 (PB (L) LEVEL)
HRPE101
REC/PB HEAD (B DECK)
ERASE HEAD
IC602 REC/PB SWITCH
C331 L331 BIAS TRAP
RV341 (REC BIAS)
T621
BIAS OSC Q621,622
Q623
Q404
B+ (8V)
IC401 DOLBY NR/REC EQ AMP
REC EQ
BIAS SW
NORM
CROM
REC
PB
DOLBY B
DOL
PAS
70
120
RV401 (REC (L) LEVEL)
-7.5V
S1004 A Cr02
S1008 B Cr02
PB MUTE Q401
MUTE DRIVE Q403
LM
REC/PB
NR
RM ON/OFF
A/B
BIAS ON/OFF
NORM/HIGH
PASS
RELAY
IC102 (1/2)
IC102 (2/2)
CLK
DATA
Q103
Q102
C0 SECTION B (Page 22)
S292 (LOAD IN)
XRST
SCOR
SENS
SQCK
SQSO
SF LATCH
XLAT
FOCUS SW
S291 (LOAD OUT)
IC106 LOADING MOTOR DRIVE
M903 LOADING MOTOR
FWD/REV CONTROL LOGIC
OUT1
OUT2
IN1
IN2
LED DRIVE Q510
LED DRIVE Q511
LED DRIVE Q512
Q05
• Signal path.
:FM
:AM
:PB (DECK A)
:PB (DECK B)
:REC (DECK B)
:C0


J701 (1/2)
MD IN
R-CH
IC701
INPUT SELECT
J701 (2/2)
MD OUT
R-CH
CD SECTION A
(Page 22)
WOOFER LEVEL
Q2002, 2003
IC104
GEQ, BBFB AMP
AMP
BASS BOOST
IC105
ELECTRICAL VOLUME
IC2001
AMP
IC2002
L.P.F (160Hz)
H.P.F (45Hz)
IC901
POWER AMP
MUTE
Q1002
IC1001
H.P AMP
IC1002
H.P.F (200Hz)
LINE
MUTE
Q103
IC902
POWER AMP
LINE
MUTE
Q1005
MUTE
DRIVE
Q102
POWER
ON/OFF
SWITCH
Q903
LPF41
LPF42
LPF
MUTE
PILOT
DET
VCO STOP
X42
450KHz
F.F
19KHz
∠ 90°
F.F
19KHz
∠ 0°
AM/FM
REC MUTE
Q703
MUTE DRIVE
Q705
R-CH
DECORDER
MICON
INTERFACE
CLK
DATA
LATCH
INBB1
NFBB1
FBB1
BBFB
CONTROL
Q1051
IC971 PROTECT
OVER
LOAD
DET
DC
OFFSET
DET
AC
OFF
SET
RELAY
DRIVE
FF
RY901
TB902
WOOFER
Q1002
SWITCH
CONTROL
Q701
SWITCH
CONTROL
Q702
FUNC C
REG. LATCH
VOL-LATCH
CBG MUTE
UP MOTOR
FUNC A
FUNC B
MUTE
A-PLAY
B-PLAY
A-HALF
B-HALF
S1001
(A-PLAY)
S1002
(B-PLAY)
S1003
(A-HALF)
S1006
(B-HALF)
S1005
(REC A)
S1009
(REC B)
B+
(+5V)
A-SHUT
B-SHUT
REEL
DET
Q1001
REEL
DET
Q1002
0506-512
516
518-523
0504, 505
513-515
517
5501-528
IC502
REMOTE
CONTROL
RECEIVER
PROTECT
SWITCH
Q972
Q904
Q903
POWER ON/OFF
SWITCH
Q904
IC902
B+
RECT
Q813
RECT
Q809, 810
LED DRIVE
Q502, 503
Q507, 509
14-17-20-21
LED
23-25
KEY2-4
9 IRCS
IC501
DISPLAY
CONTROL
XTAL
EXTAL
X501
4MHz
-25V
(FOR FL501)
-25V REG.
Q801, 807
RECT
Q802, 803
ST MUTE
STEREO
TUNED
CE
D-OUT
CLK
D-IN
REQ. GM
REQ
SCK. IN
SO. IN
SO. OUT
RST
ENCA. B
P1
10-70
69-63
P2-P29
61-34
4-10
14-41
FL
DRIVE
Q501
FL501
FLUORESCENT INDICATOR TUBE
VF
IC1101
MASTER CONTROL
IC102 (1/2)
CLK
Q103
IC102 (2/2)
DATA
Q102
S292
(LOAD IN)
CD SECTION B
(Page 22)
XRST
SCOR
SENS
SQCK
SQSO
BF LATCH
XLAT
FOCUS SW
IN SW
CD XRST
SCOR<05P>
CIN/SENS
SQ-RDS-CLK
SQ-RDS-DI
BF-LATCH
XLT
FOCS. SW
OUT. SW
S291
(LOAD OUT)
IC106
LOADING MOTOR DRIVE
M903
LOADING
MOTOR
OUT1
OUT2
FWD/REV
CONTROL
LOGIC
IN1
IN2
LOAD IN
LOAD OUT
LM
REC/PB
NR
RM ON/OFF
A/B
BIAS ON/OFF
NORM/HIGH
PASS
RELAY
IC402
TRIGGER MOTOR DRIVE
TRIG H/L
B TRG
A TRG
SWITCH
Q410-412
SWITCH
Q414
SWITCH
Q413
VZ
IN2
IN1
OUT1
OUT2
M2
TRIGGER
MOTOR
CAPM H/L
CAPM ON/OFF
CAP MOTOR H/L
SWITCH
Q409
CAP MOTOR
CONTROL
Q651
RV652
(HIGH SPEED)
RV651
(NORMAL SPEED)
B+ (12.3V)
M1
CAPSTAN
MOTOR
CAP MOTOR
SWITCH
Q405, 408
XOUT
XIN
X102
32KHz
X101
10MHz
CD. POWER
RESET
BACK UP
POWER
TABLE SENS
S529
(WOOFER LEVEL)
ROTARY
ENCORDER
S530
0624
LOW
0625
HIGH
0626
MID
LED DRIVE
Q510
LED DRIVE
Q511
LED DRIVE
Q512
MUTE
KEY CON LATCH
BBFB1-2
0106
+5V
(FOR CD)
CD B+
SWITCH
Q105, 106
0109
0108
IC101
B+
RESET
Q101
IC103
RESET
+12V
IC801
+12V REG.
RECT
Q801
B-
-7.5V
-7.5V REG.
Q805, 808
+7.5V
+7.5V REG.
Q802
+7V
(FOR CD)
+7V REG.
IC802
+5.6V REG.
Q804, 806
TB01
POWER
TRANSFORMER
EXCEPT A
AUS
VF
F801
VOLTA
220-240
EXCEPT
UK, AU



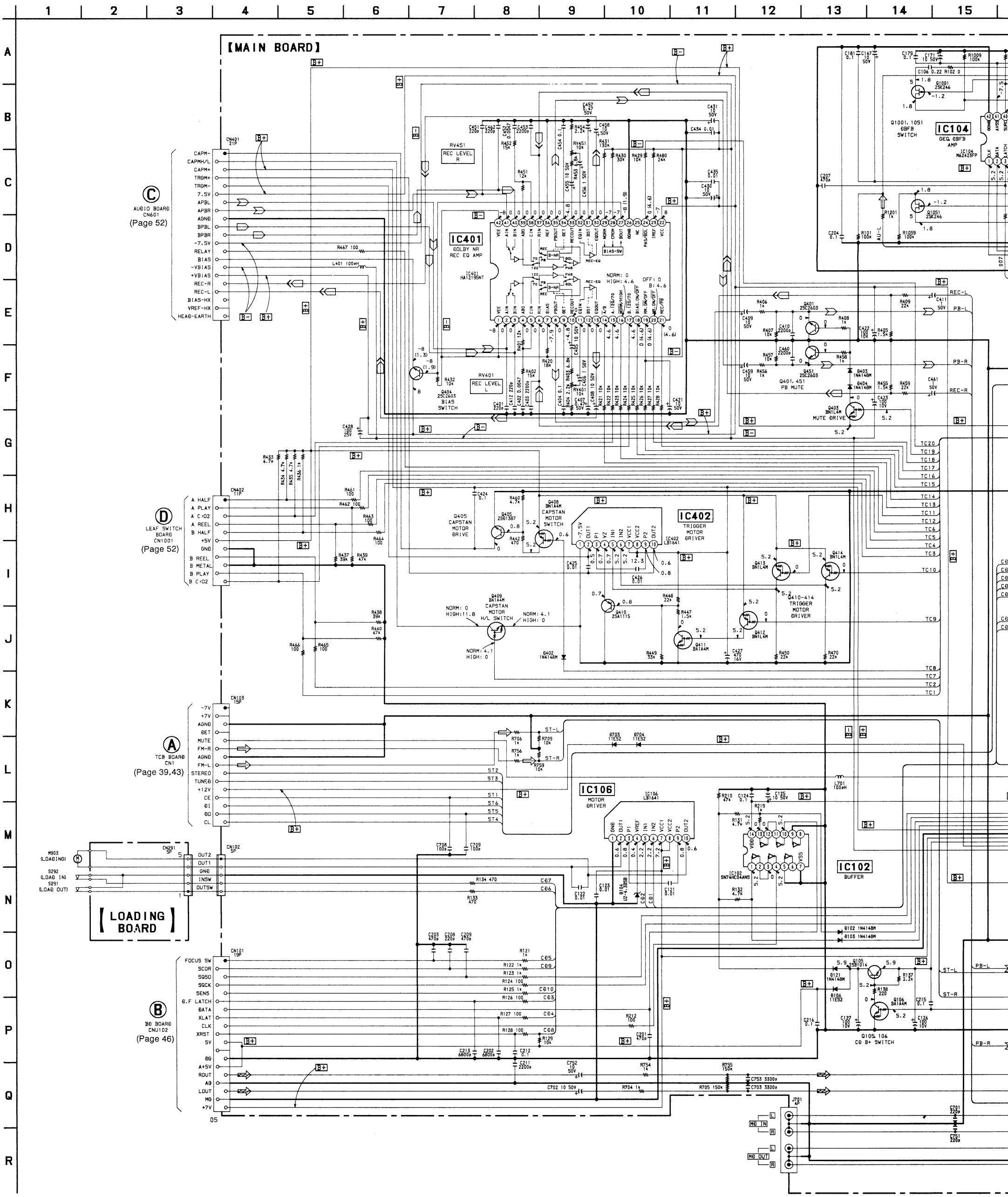
• Circuit Boards Location

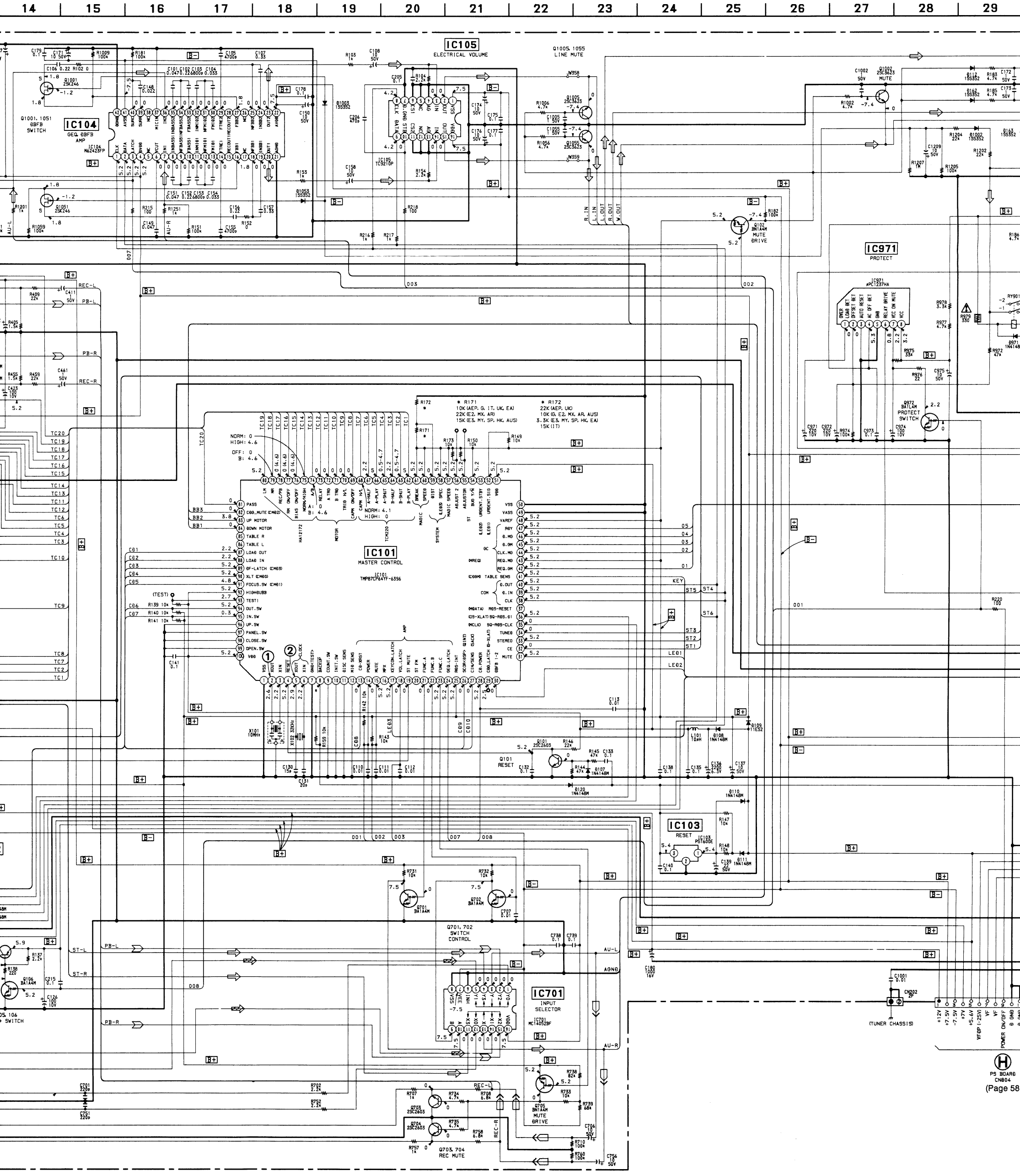


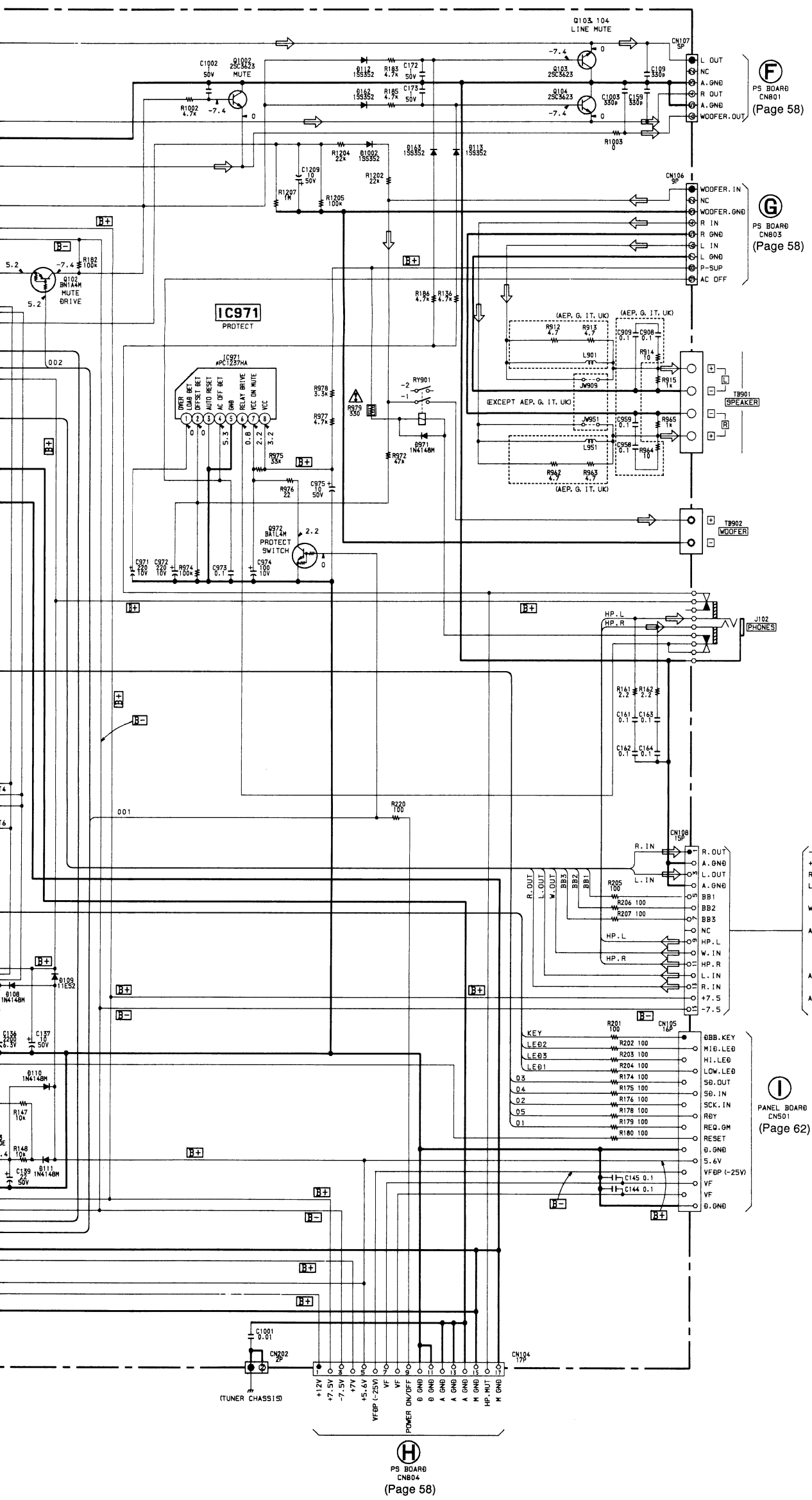
- Abbreviation
  - G : German
  - IT : Italian
  - E2 : Tuner sections SW BAND do not exist.
  - E3 : Tuner sections SW BAND exist.
  - MY : Malaysia
  - SP : Singapore
  - MX : Mexican
  - EA : Saudi Arabia
  - HK : Hong Kong
  - AR : Argentine
  - AUS : Australian

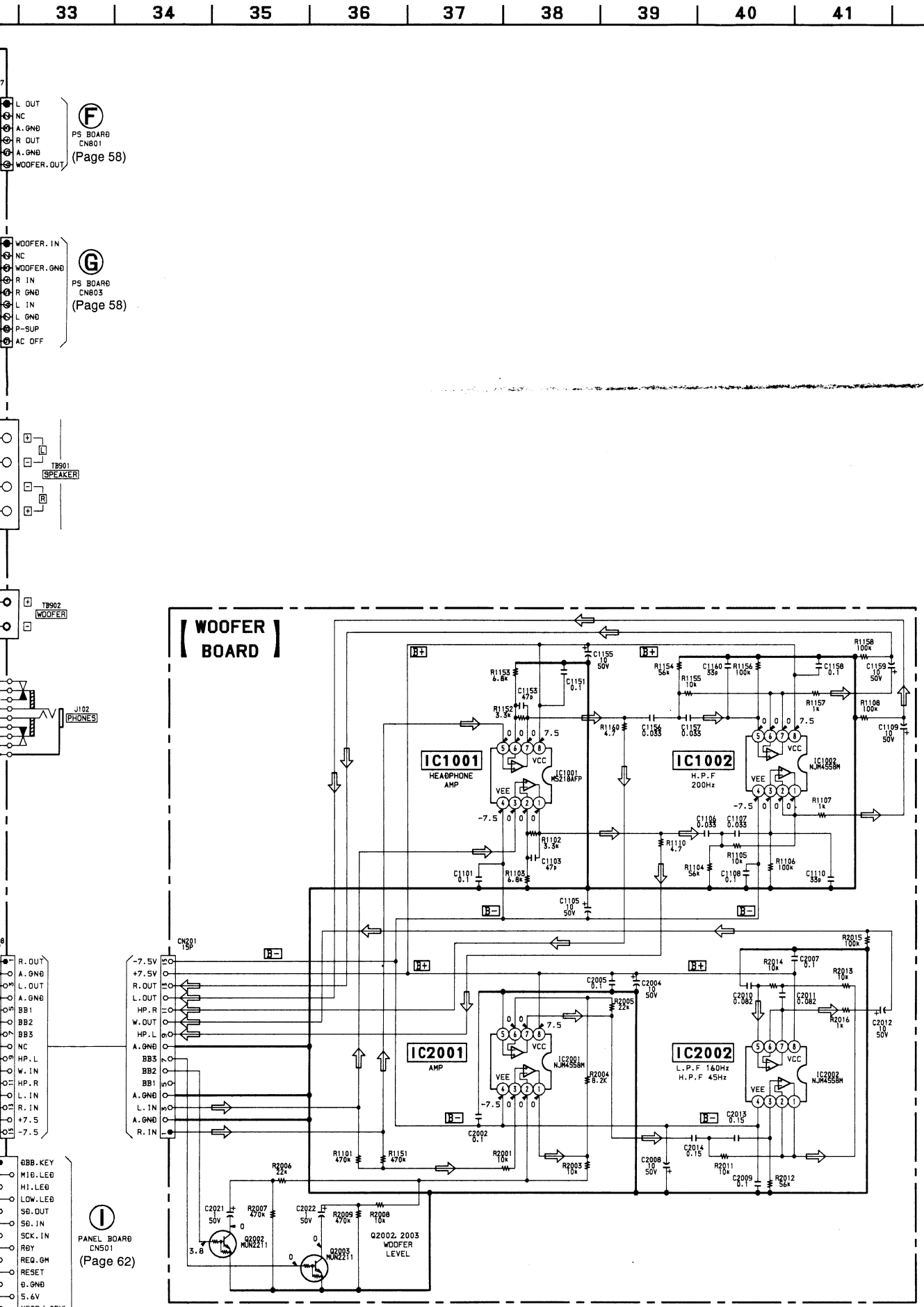
6-3. SCHEMATIC DIAGRAM – MAIN SECTION –

• Refer to page 17 for IC Pin Function Description. • Refer to page 36 for IC Block Diagrams.



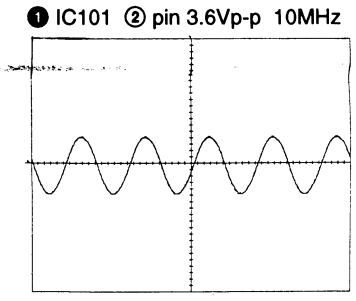

14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
IC105
ELECTRICAL VOLUME
IC105
TC9210P
Q1005, 1055
LINE MUTE
Q1005
2SC3623
-7.4
Q1055
2SC3623
-7.4
Q1002
2SC3623
MUTE
-7.4
IC104
GEQ ØBFB
AMP
IC104
M62423FP
Q1001, 1051
ØBFB
SWITCH
Q1001
2SK246
Q1051
2SK246
IC971
PROTECT
IC971
μPC1237HA
OVER LOAD DET
OFFSET DET
AUTO RESET
AC OFF DET
GND
RELAY DRIVE
MUTE
VCC ON
VCC
Q972
BA1L4M
PROTECT
SWITCH
IC101
MASTER CONTROL
IC101
TMP87CP64YF-6396
TC20
TC19
TC18
TC17
TC16
TC15
TC14
TC13
TC12
TC11
TC10
TC9
TC8
TC7
TC6
TC5
TC4
TC3
TC2
TC1
NORM: 0
HIGH: 4.6
OFF: 0
B: 4.6
NORM: 4.1
HIGH: 0
PASS
CØØ_MUTE (CM82)
UP MOTOR
ØOWN MOTOR
TABLE R
TABLE L
LOAØ OUT
LOAØ IN
ØF-LATCH (CM83)
XLT (CM80)
FOCUS.SW (CM81)
HIGHØUBB
TEST1
OUT.SW
IN.SW
UP.SW
PANEL.SW
CLOSE.SW
OPEN.SW
VØØ
(TEST)
R139 10k
R140 10k
R141 10k
IC103
RESET
IC103
PST600E
Q101
RESET
Q101
2SC2603
Q701
BA1A4M
Q702
BA1A4M
Q701, 702
SWITCH
CONTROL
IC701
INPUT
SELECTOR
IC701
MC14052BF
Q703
2SC2603
Q704
2SC2603
Q705
BN1A4M
MUTE
ØRIVE
Q703, 704
REC MUTE
Q102
BN1A4M
MUTE
ØRIVE
Q106
BA1A4M
SWITCH
PS BOARØ
CN804
(Page 58)
(TUNER CHASSIS)
CN202
2P
+12V
+7.5V
-7.5V
+7V
+5.6V
VFØP (-25V)
VF
VF
POWER ON/OFF
GND
B+
B-
REC-L
PB-L
PB-R
REC-R
ST-L
ST-R
AU-L
AU-R
001
002
003
007
008
KEY
ST5
ST4
ST6
ST3
ST2
ST1
LE01
LE02
R.IN
L.IN
L.OUT
R.OUT
W.OUT
X101
10MHz
X102 32KHz
R172 *
* R171
10K (AEP, G, IT, UK, EA)
22K (E2, MX, AR)
15K (E3, MY, SP, HK, AUS)
* R172
22K (AEP, UK)
10K (G, E2, MX, AR, AUS)
3.3K (E3, MY, SP, HK, EA)
15K (IT)


Q103, 104
LINE MUTE
CN107
5P
L OUT
NC
A.GND
R OUT
A.GND
WOOFER.OUT
PS BOARD
CN801
(Page 58)
CN106
9P
WOOFER.IN
NC
WOOFER.GND
R IN
R GND
L IN
L GND
P-SUP
AC OFF
PS BOARD
CN803
(Page 58)
IC971
PROTECT
(AEP, G, IT, UK)
(EXCEPT AEP, G, IT, UK)
TB901
SPEAKER
TB902
WOOFER
J102
PHONES
Q102
BN1A4M
MUTE
DRIVE
RY901
D971
1N4148M
R972
47k
R978
3.3k
R977
4.7k
R975
33k
R976
22
C975
10
50V
R972
BA15M
PROTECT
SWITCH
C971
220
10V
C972
220
10V
R974
100k
C973
0.1
C974
100
10V
HP.L
HP.R
R161
2.2
R162
2.2
C161
0.1
C163
0.1
C162
0.1
C164
0.1
001
R220
100
CN108
15P
R.IN
L.IN
R.OUT
A.GND
L.OUT
A.GND
BB1
BB2
BB3
NC
HP.L
W.IN
HP.R
L.IN
R.IN
+7.5
-7.5
R205
100
R206
100
R207
100
CN105
16P
KEY
LED2
LED3
LED1
03
04
02
05
01
BBB.KEY
MID.LED
HI.LED
LOW.LED
S0.OUT
S0.IN
SCK.IN
ROY
REQ.GM
RESET
D.GND
5.6V
VFDP (-25V)
VF
VF
D.GND
R201
100
R202
100
R203
100
R204
100
R174
100
R175
100
R176
100
R178
100
R179
100
R180
100
C145
0.1
C144
0.1
PANEL BOARD
CN501
(Page 62)
C1001
0.01
CN202
2P
(TUNER CHASSIS)
CN104
17P
+12V
+7.5V
-7.5V
+7V
+5.6V
VFDP (-25V)
VF
VF
POWER ON/OFF
D GND
D GND
A GND
A GND
A GND
M GND
HP. MUT
M GND
PS BOARD
CN804
(Page 58)
WOOFER
BOARD
CN201
15P
-7.5V
+7.5V
R.OUT
L.OUT
HP.R
W.OUT
HP.L
A.GND
BB3
BB2
BB1
A.GND
L.IN
A.GND
R.IN
IC1001
HEADPHONE
AMP
IC1001
M5218AFP
IC1002
H.P.F
200Hz
IC2001
AMP
IC2001
NJM4558M
IC2002
L.P.F 160Hz
H.P.F 45Hz
Q2002
MUN2211
Q2003
MUN2211
Q2002, 2003
WOOFER
LEVEL

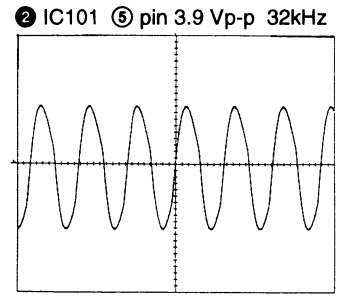


• **Waveforms – MAIN SECTION –**

❶ IC101 ② pin 3.6Vp-p 10MHz



❷ IC101 ⑤ pin 3.9 Vp-p 32kHz



Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- % : indicates tolerance.
- △ : internal component.
- : nonflammable resistor.
- : fusible resistor.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- B− : B- Line.
- : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM no mark : PLAY (DECK)
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : FM
  : PB (DECK A)
  : PB (DECK B)
  : REC (DECK B)
  : CD
- Abbreviation
  G : German
  IT : Italian
  E2 : Tuner sections SW BAND do not exist.
  E3 : Tuner sections SW BAND exist.
  MY : Malaysia
  SP : Singapore
  MX : Mexican
  EA : Saudi Arabia
  HK : Hong Kong
  AR : Argentine
  AUS : Australian

6-4. PRINTED WIRING BOARDS – MAIN SECTION – • Refer to page 27 for Circuit Boards Location.

【LOADING BOARD】

S292 LOAD IN

M903 LOADING MOTOR

S291 LOAD OUT

CN291

I-650-836-

【MAIN BOARD】

J701 MD OUT R L MD IN R L

TB902 WOOFER

TB901 SPEAKER R L

EXCEPT AEP, G, IT, UK

AEP, G, IT, UK

(TUNER CHASSIS)

BD BOARD CNU102 (Page 47) — B

TUNER BOARD CN1 (Page 40, 41) — A

PS BOARD CN804 (Page 56) — H

AUDIO BOARD CN601 (Page 54) — C

PANEL BOARD CN501 (Page 63) — I

PS BOARD CN803 (Page 56) — G

PS BOARD CN801 (Page 56) — F

LEAF SW BOARD CN1001 (Page 53) — D

J102 PHONES

【WOOFER BOARD】

I-660-714-

I-660-713-

• Semico

Ref. No.
D102
D103
D104
D106
D107
D108
D109
D110
D111
D112
D113
D120
D121
D162
D163
D402
D403
D404
D703
D704
D971
D1002
D1003
D1053
IC101
IC102
IC103
IC104
IC105
IC106
IC401
IC402
IC701
IC971

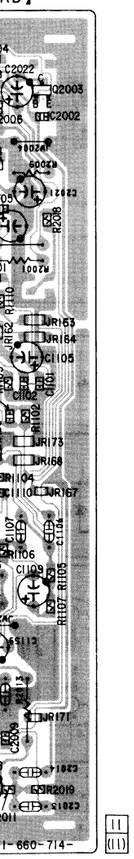
Note:

- ○
- ■
- △
- ▒

Abbre

G

IT



• **Semiconductor Location**

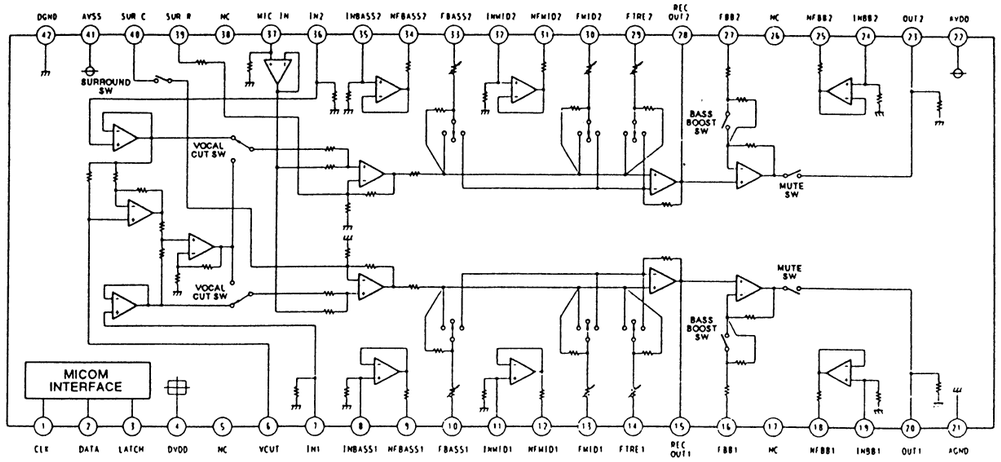
Ref. No.	Location	Ref. No.	Location
D102	D-8	IC1001	F-14
D103	D-8	IC1002	G-14
D104	D-7	IC2001	D-14
D106	D-5	IC2002	H-14
D107	H-10		
D108	H-11	Q101	H-10
D109	H-10	Q102	E-11
D110	H-11	Q103	E-10
D111	H-11	Q104	E-10
D112	E-11	Q105	C-5
D113	E-10	Q106	D-5
D120	G-9	Q401	F-8
D121	C-5	Q403	F-9
D162	E-10	Q404	H-7
D163	E-10	Q405	E-7
D402	E-9	Q408	E-8
D403	G-8	Q409	E-8
D404	F-9	Q410	F-7
D703	E-4	Q411	F-7
D704	F-4	Q412	F-8
D971	C-12	Q413	F-8
D1002	C-11	Q414	F-8
D1003	C-11	Q451	F-7
D1053	C-11		
		Q701	B-7
		Q702	B-7
		Q703	A-7
IC101	G-10	Q704	A-7
IC102	D-8	Q705	B-8
IC103	G-11	Q972	D-11
IC104	C-10	Q1001	C-11
IC105	C-8	Q1002	D-11
IC106	D-7	Q1005	C-7
IC401	G-8	Q1051	C-10
IC402	F-7	Q1055	C-7
IC701	B-5	Q2002	D-14
IC971	C-11	Q2003	D-15

Note:

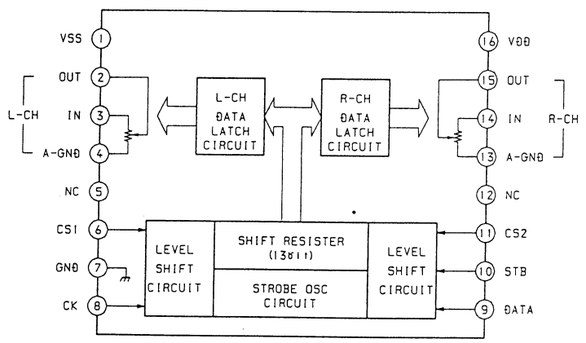
- ○——○ : parts extracted from the component side.
- ■ : parts mounted on the conductor side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.
- Abbreviation
  G : German
  IT : Italian

• **IC Block Diagrams – MAIN SECTION –**

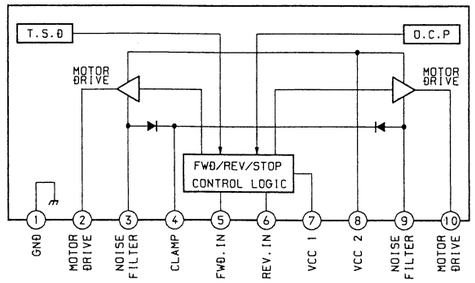
IC104 M62423FP



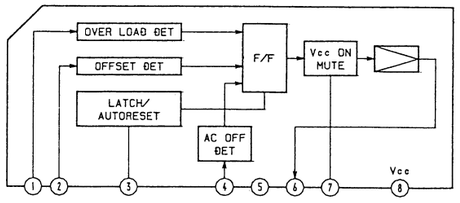
IC105 TC9210P



IC106, 402 LB1641

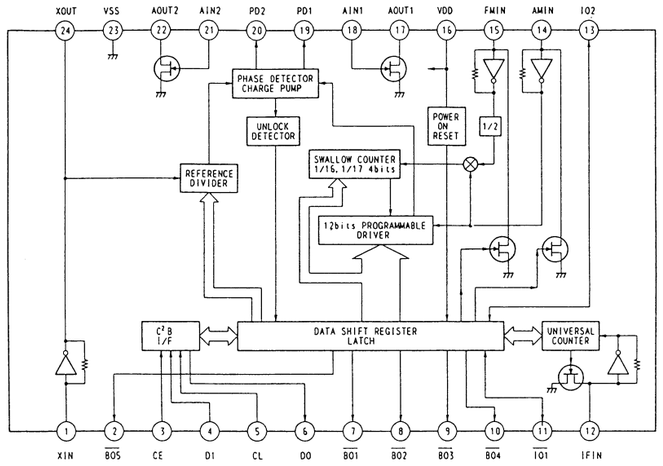


IC971 μPC1237HA

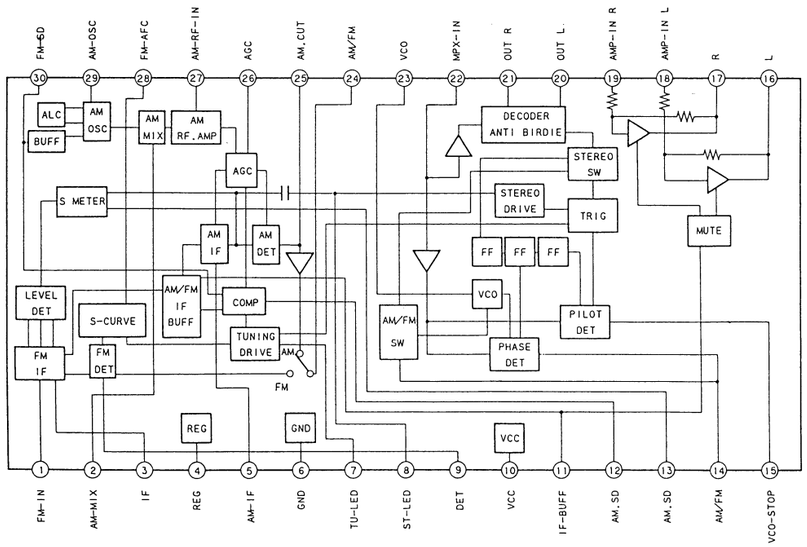


• IC Block Diagrams – TUNER SECTION –

IC21 LC72130



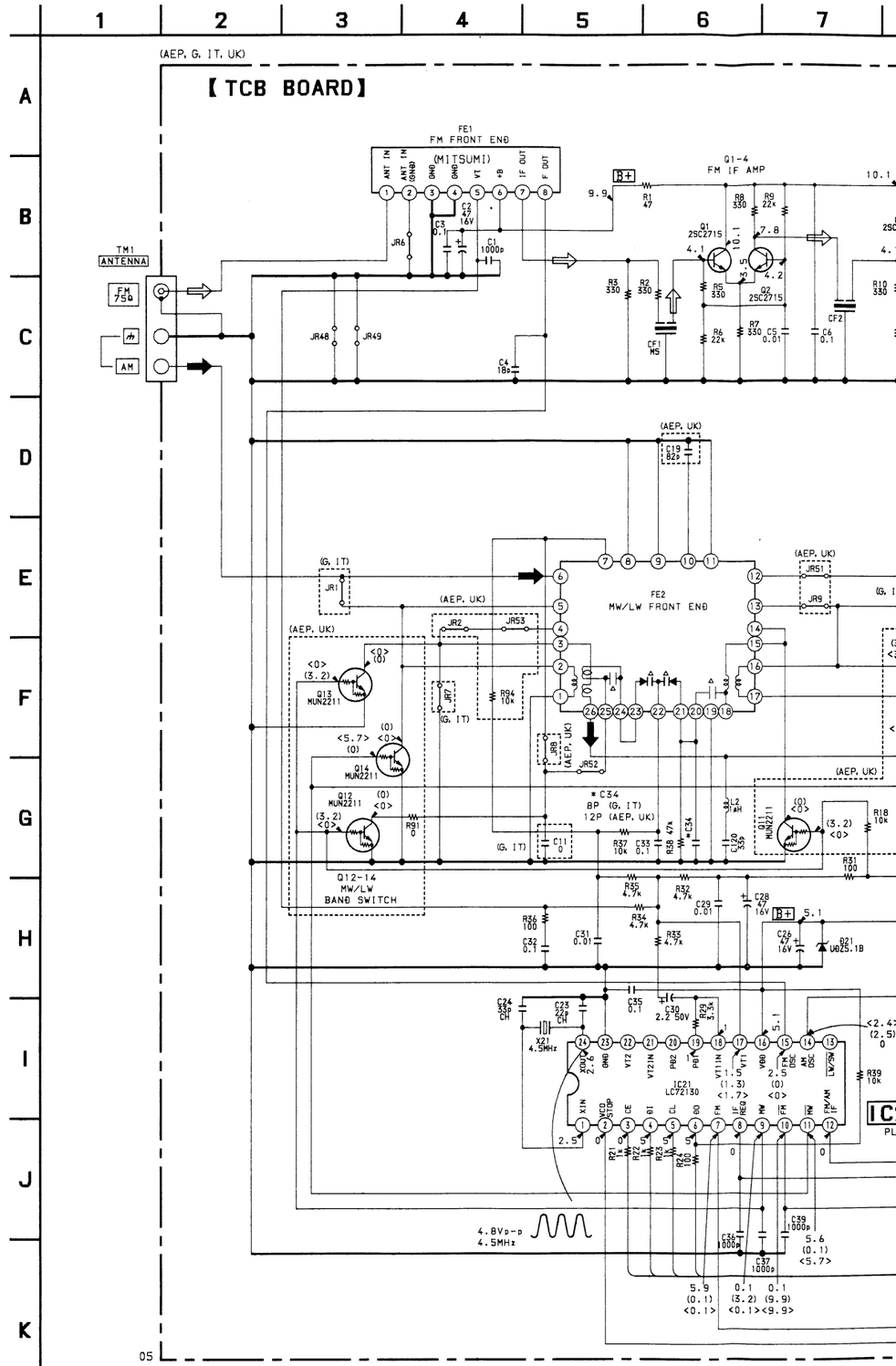
IC41 LA1835

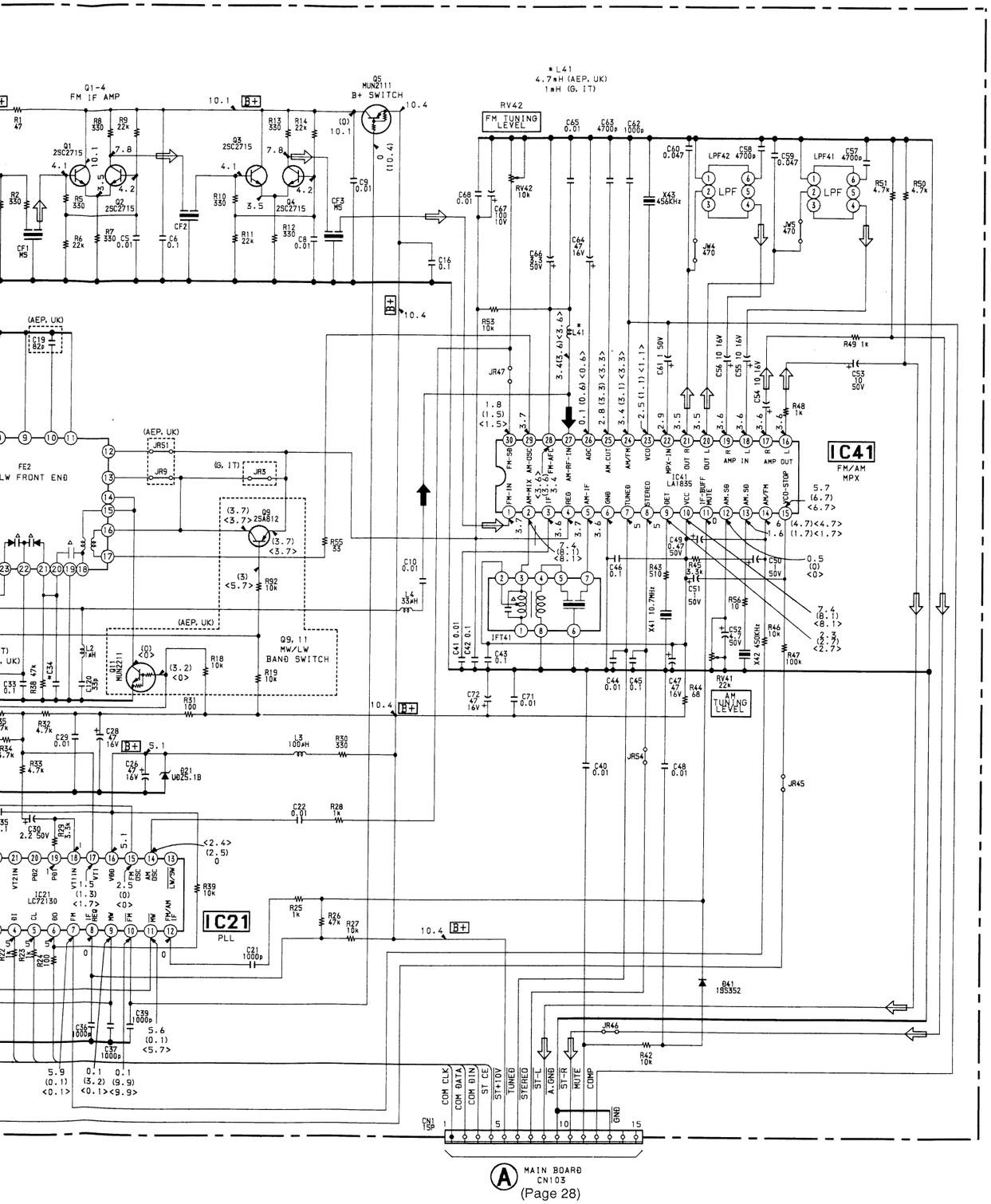


Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM
- Abbreviation
  G : German
  IT : Italian

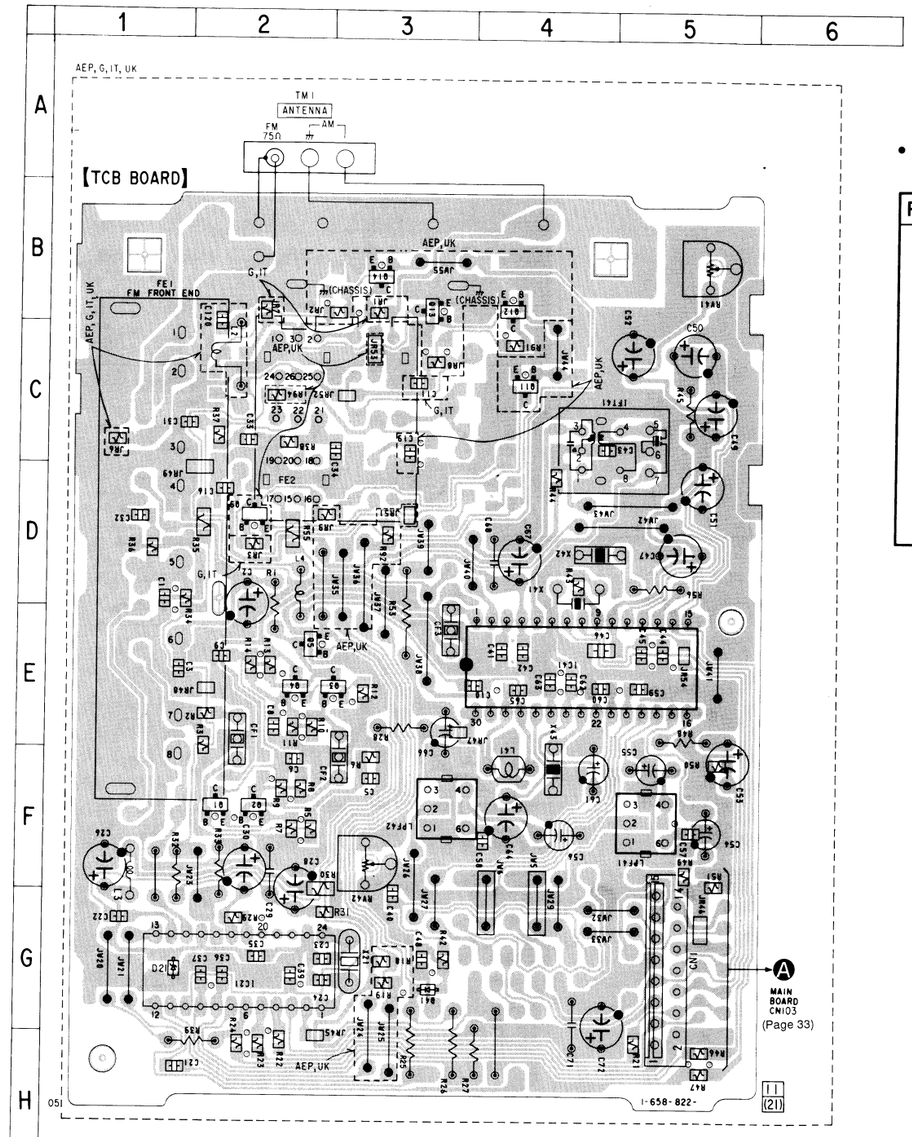
6-5. SCHEMATIC DIAGRAM – TUNER SECTION – (AEP, G, IT, UK MODEL)





6-6. PRINTED WIRING BOARD – TUNER SECTION – (AEP, G, IT, UK MODEL)

• Refer to page 27 for Circuit Boards Location.



- **Semiconductor Location**

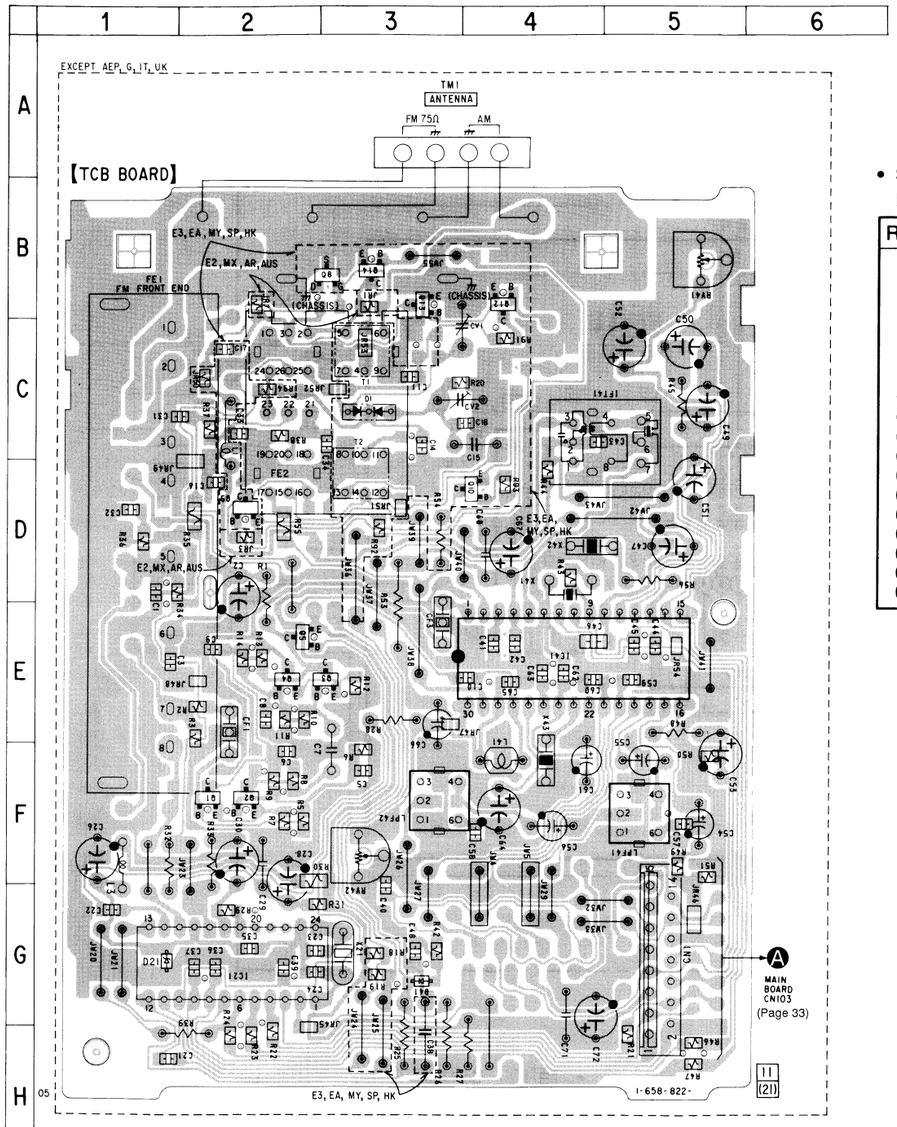
Ref. No.	Location
D21	G-1
D41	G-3
IC21	G-2
IC41	E-4
Q1	F-2
Q2	F-2
Q3	E-3
Q4	E-2
Q5	E-2
Q9	D-2
Q11	C-4
Q12	B-4
Q13	B-3
Q14	B-3

Note:

- ○——○ : parts extracted from the component side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.
- Abbreviation
  G : German
  IT : Italian

6-7. PRINTED WIRING BOARD – TUNER SECTION – (EXCEPT AEP, G, IT, UK MODEL)

• Refer to page 27 for Circuit Boards Location.



• **Semiconductor Location**

Ref. No.	Location
D1	C-3
D21	G-1
D41	G-3
IC21	G-2
IC41	E-4
Q1	F-2
Q2	F-2
Q3	E-3
Q4	E-2
Q5	E-2
Q8	B-3
Q9	D-2
Q10	D-4
Q12	B-4
Q13	B-3
Q14	B-3

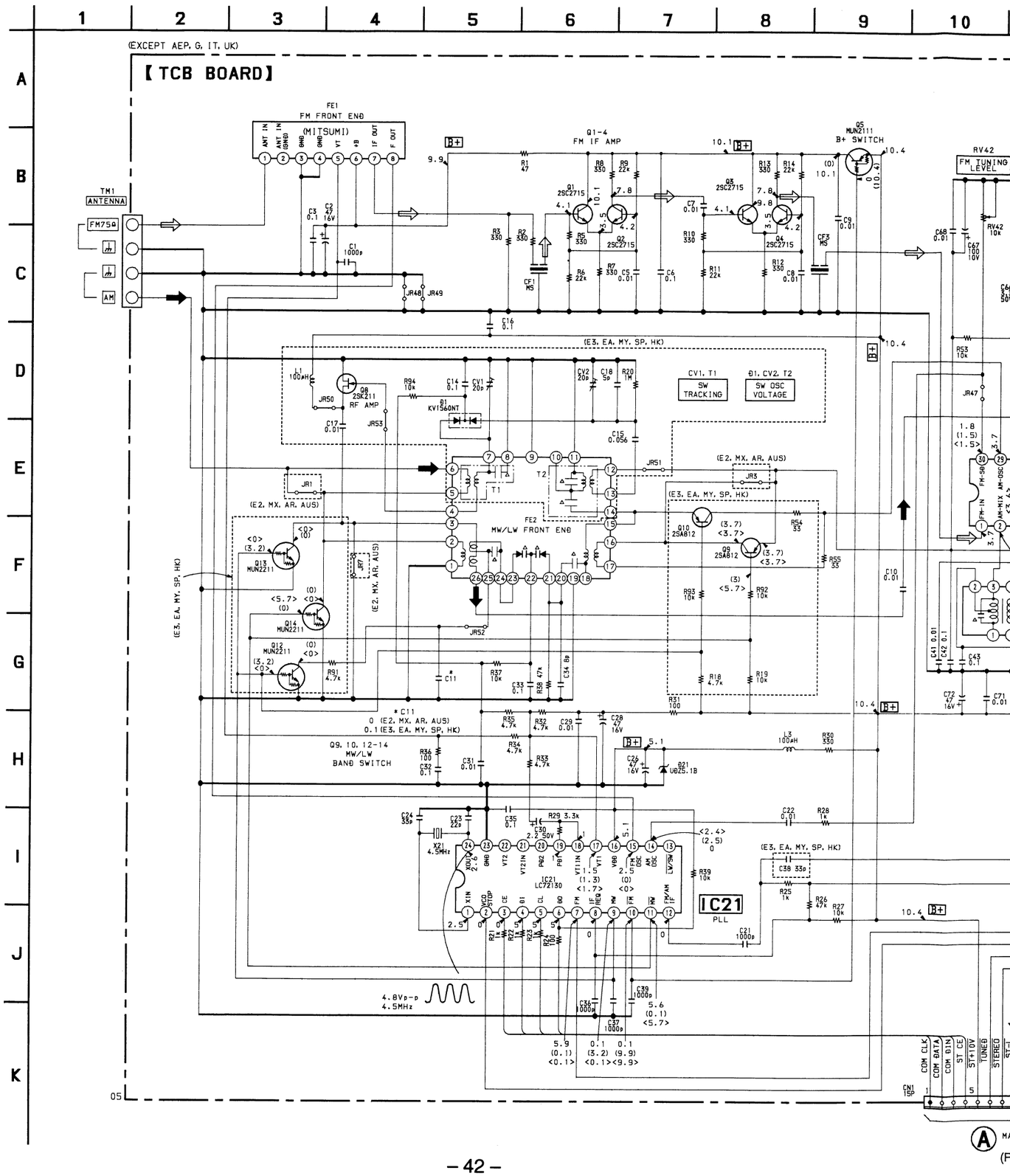
Note:

- ○——— : parts extracted from the component side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

- Abbreviation
  - G : German
  - IT : Italian
  - E2 : Tuner sections SW BAND do not exist.
  - E3 : Tuner sections SW BAND exist.
  - MY : Malaysia
  - SP : Singapore
  - MX : Mexican
  - EA : Saudi Arabia
  - HK : Hong Kong
  - AR : Argentine
  - AUS : Australian

6-8. SCHEMATIC DIAGRAM – TUNER SECTION – (EXCEPT AEP, G, IT, UK MODEL)

• Refer to page 37 for IC Block Diagrams.

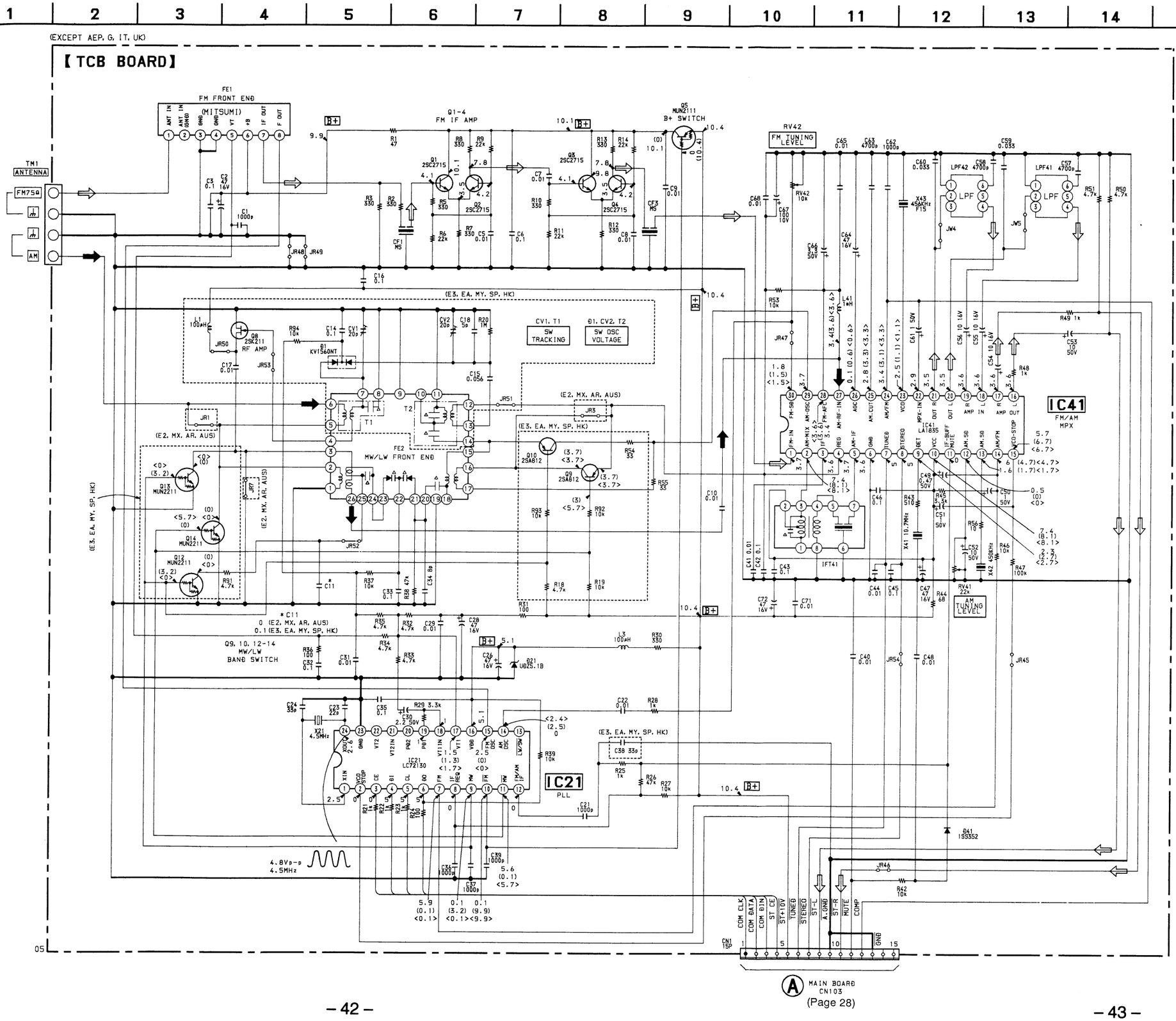


6-8. SCHEMATIC DIAGRAM – TUNER SECTION – (EXCEPT AEP, G, IT, UK MODEL)

• Refer to page 37 for IC Block Diagrams.

(EXCEPT AEP, G, IT, UK)

【TCB BOARD】



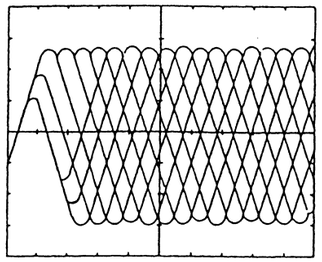
Location
C-3
G-1
G-3
G-2
E-4
F-2
F-2
E-3
E-2
E-2
B-3
D-2
D-4
B-4
B-3
B-3

Note:

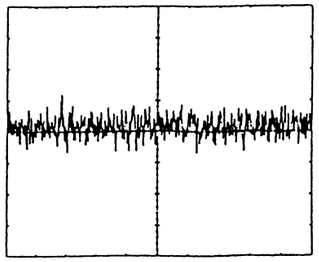
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM
- Abbreviation
  G : German
  IT : Italian
  E2 : Tuner sections SW BAND do not exist.
  E3 : Tuner sections SW BAND exist.
  MY : Malaysia
  SP : Singapore
  MX : Mexican
  EA : Saudi Arabia
  HK : Hong Kong
  AR : Argentine
  AUS : Australian

• Waveforms – CD SECTION –

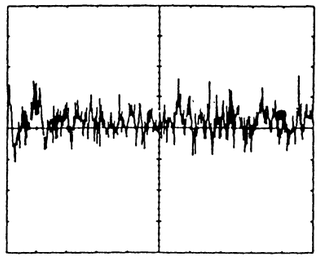
❶ IC101 ㉛ pin 1.4Vp-p



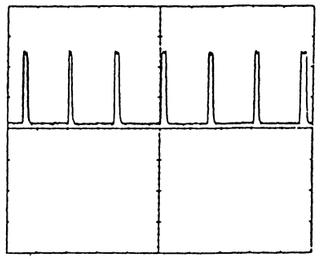
❷ IC101 ㊹ pin 8mVp-p 0.2msec/DIV



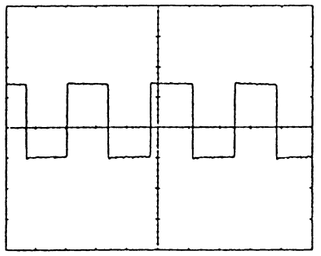
❸ IC101 ② pin 20mVp-p 2ms/DIV



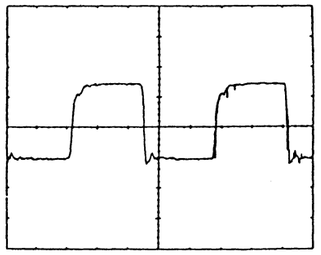
❹ IC103 ③ pin 2.4 Vp-p 7.5 µsec



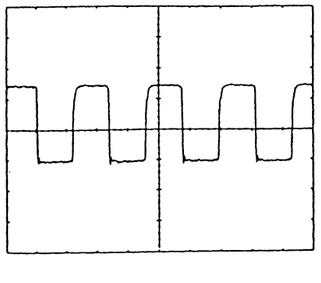
❺ IC103 ㉘ pin 5.1 Vp-p 137 µsec



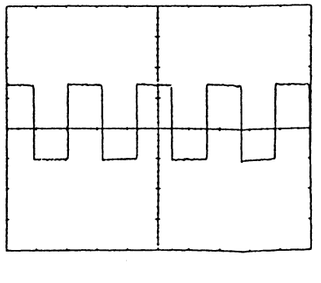
❻ IC103 ㉕ pin 5.1 Vp-p 232.7nsec



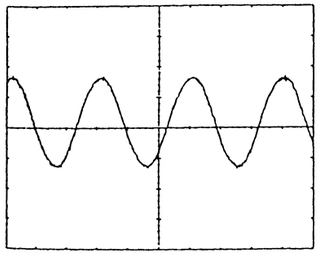
❼ IC103 ㉒ pin 5.1 Vp-p 472.7nsec



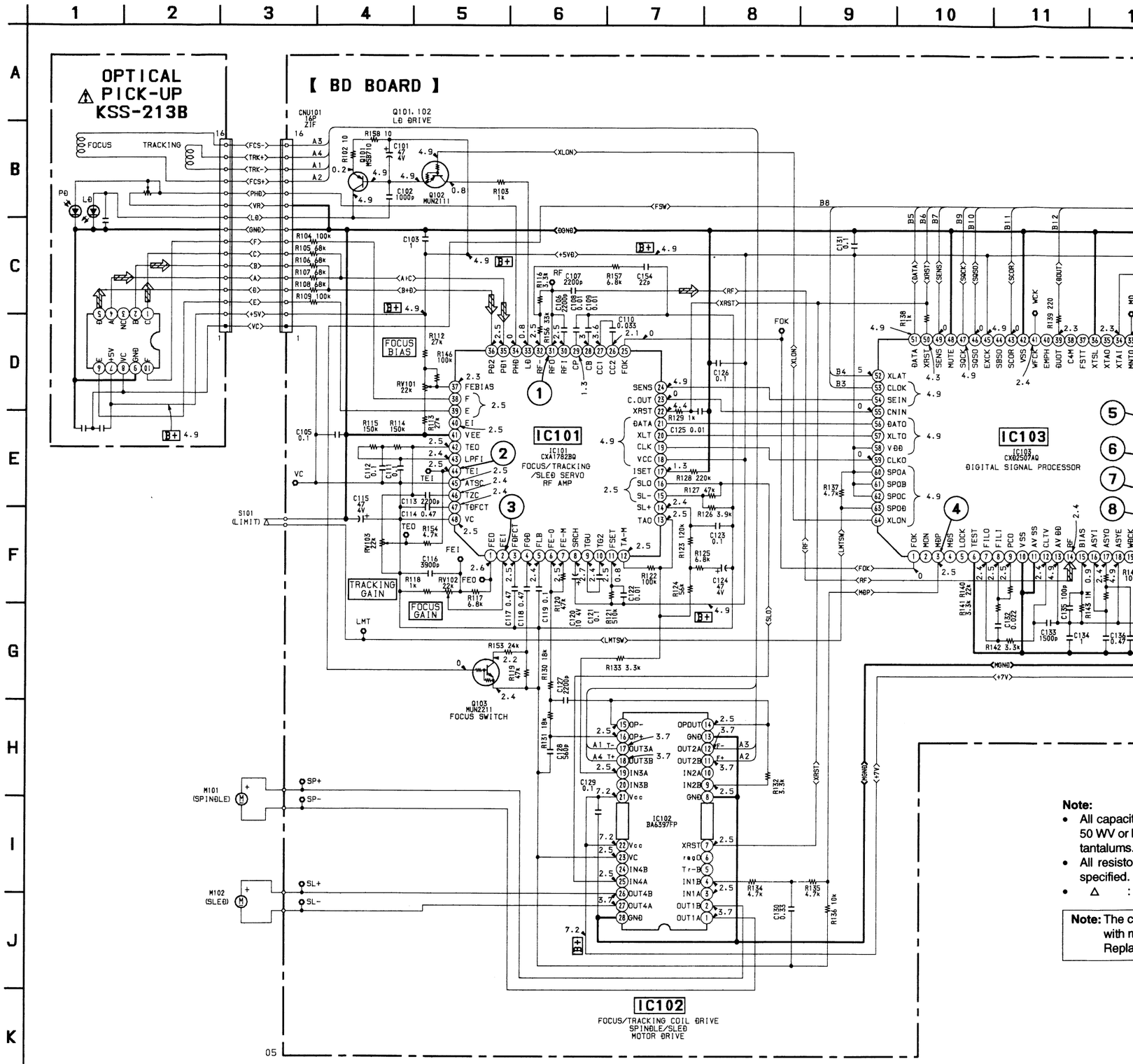
❽ IC103 ⑳ pin 5.1 Vp-p 23 µsec

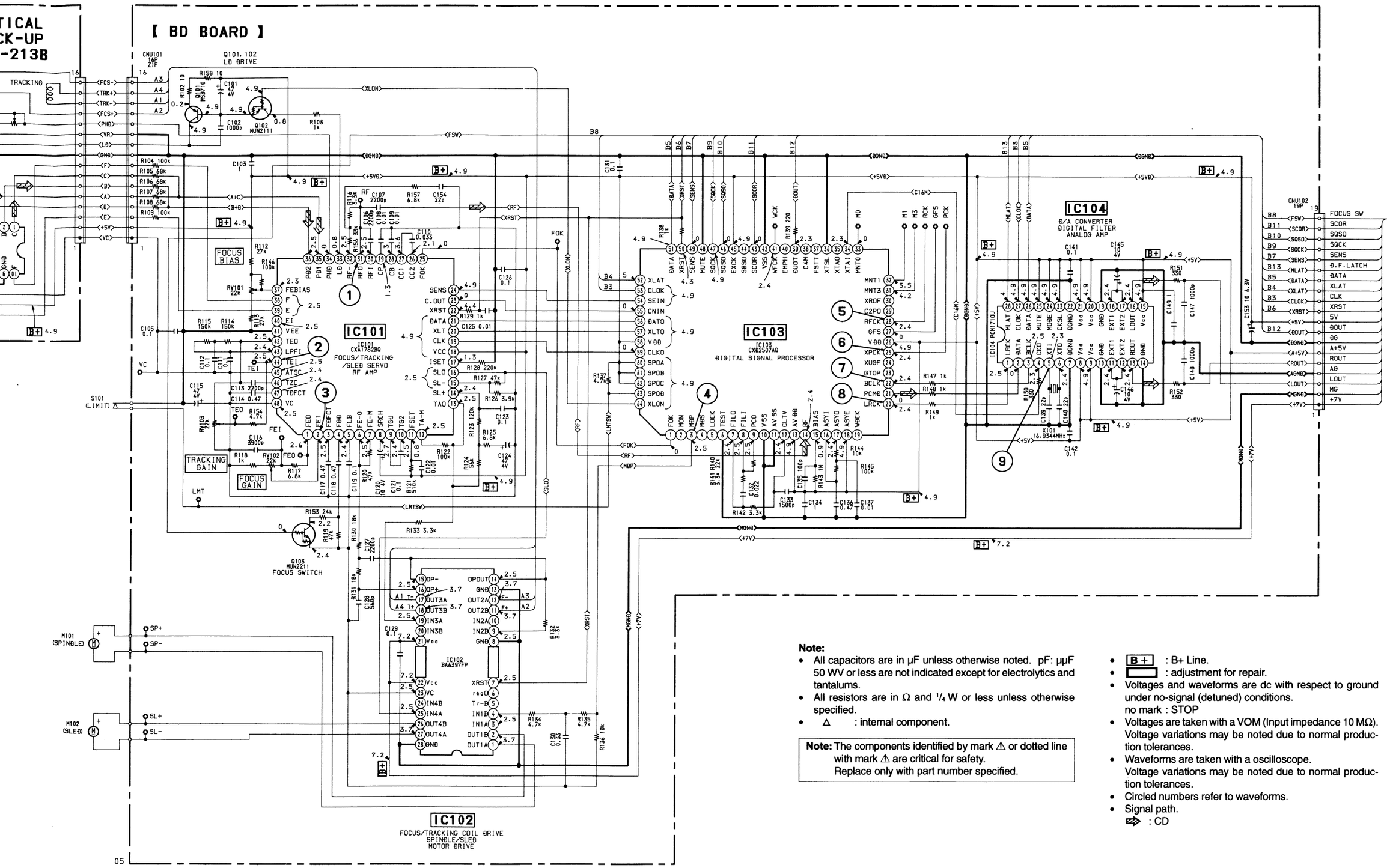


❾ IC104 ⑤ pin 3 Vp-p 16.9344MHz



6-9. SCHEMATIC DIAGRAM – CD SECTION – • Refer to page 48 for IC Block Diagrams.





Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.

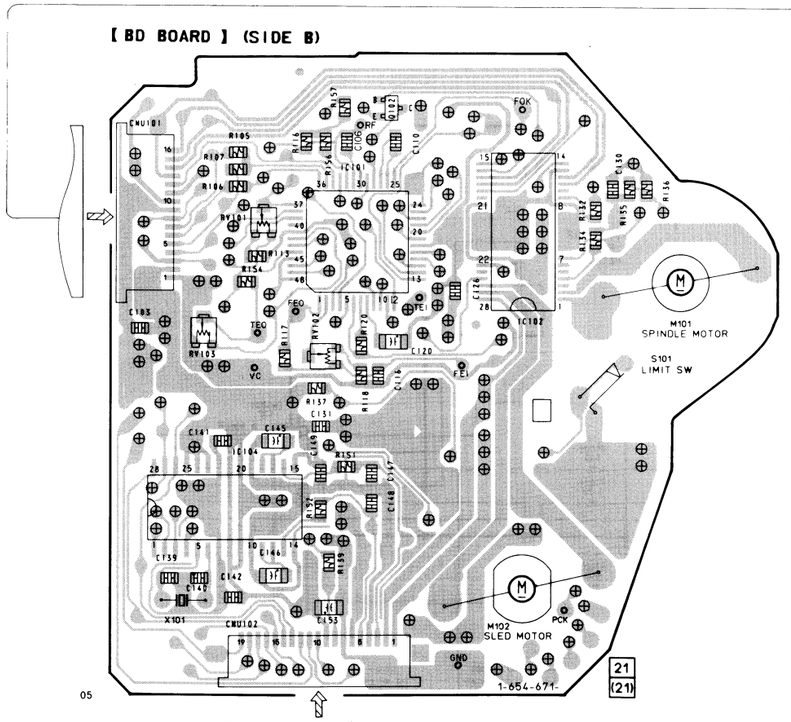
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

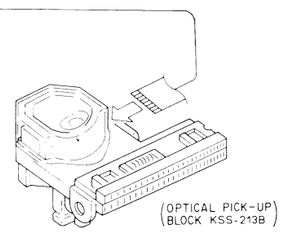
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : STOP
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

6-10. PRINTED WIRING BOARD – CD SECTION – • Refer to page 27 for Circuit Boards Location.

【 BD BOARD 】 (SIDE A)

【 BD BOARD 】 (SIDE B)





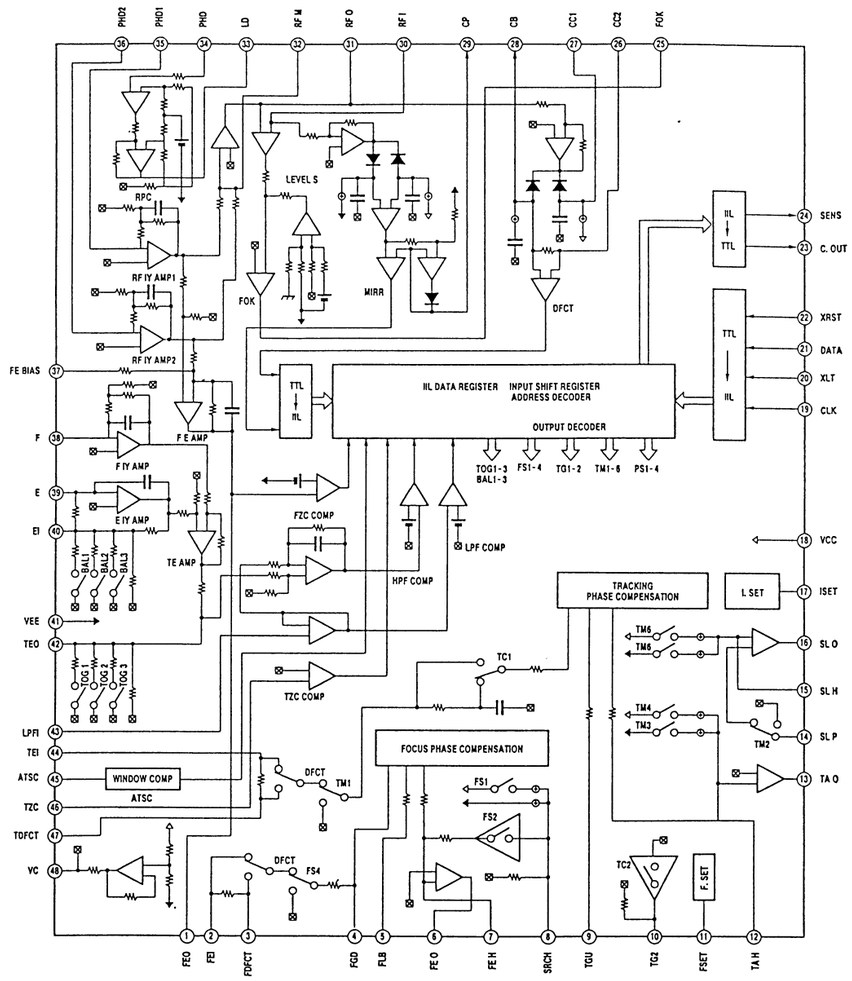
(Page 33)
MAIN BOARD
CN101

• **Semiconductor Location**

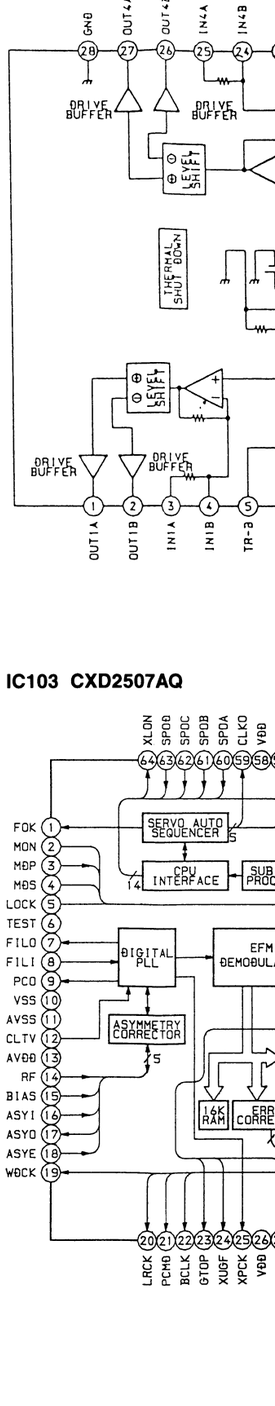
Ref. No.	Location
IC101	H-3
IC102	H-4
IC103	B-3
IC104	I-2
Q101	E-3
Q102	G-3
Q103	E-2

• IC Block Diagrams – CD SECTION –

IC101 CXA1782BQ



IC102 BA6397FP



IC103 CXD2507AQ

Note:

- ○——— : parts extracted from the component side.
- ⊕ : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

8

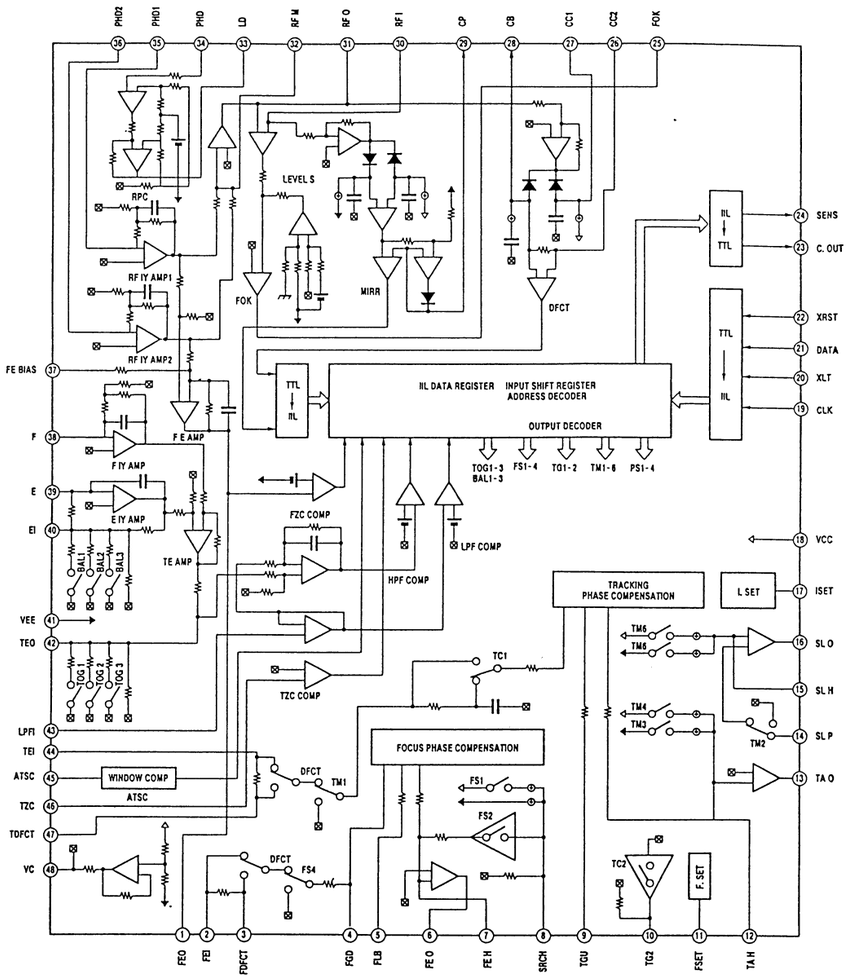
nductor
n

Location
H-3
H-4
B-3
I-2
E-3
G-3
E-2

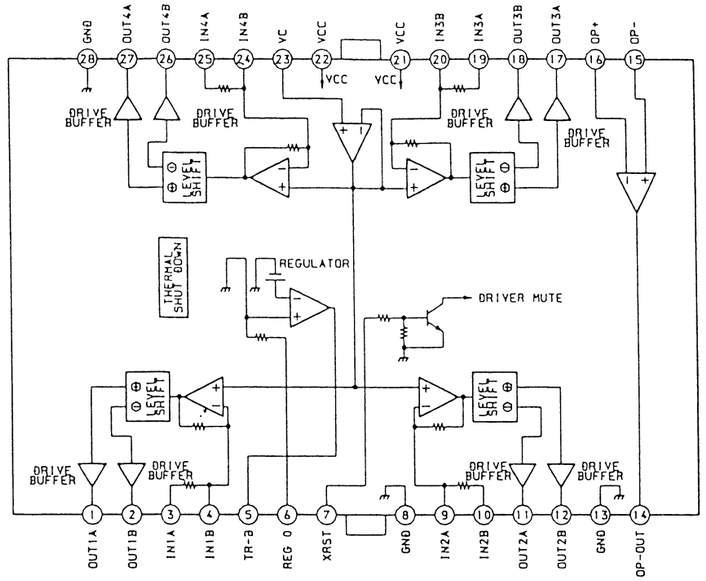
(OPTICAL PICK-UP)
(BLOCK KSS-213B)

• IC Block Diagrams – CD SECTION –

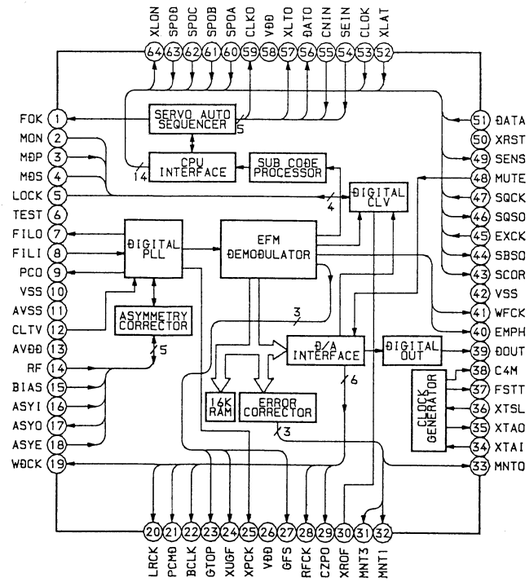
IC101 CXA1782BQ



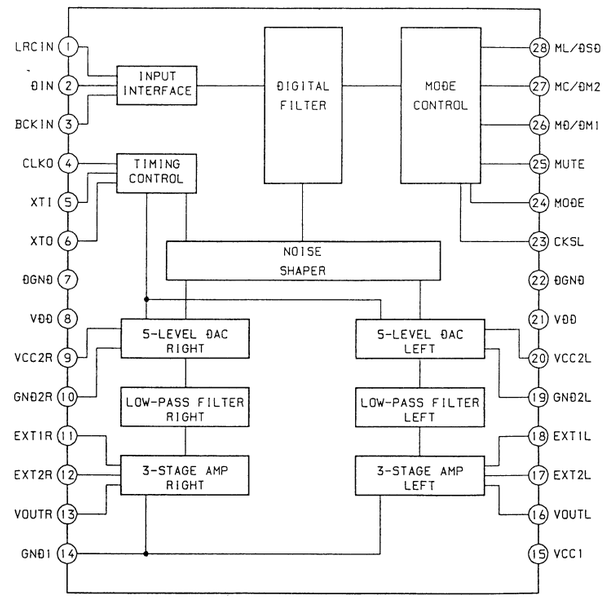
IC102 BA6397FP



IC103 CXD2507AQ



IC104 PCM1710U



Note:

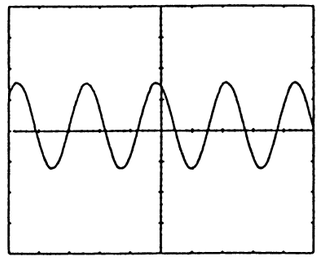
- ——o : parts extracted from the component side.
- ⊕ : Through hole.
- ▒▒ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

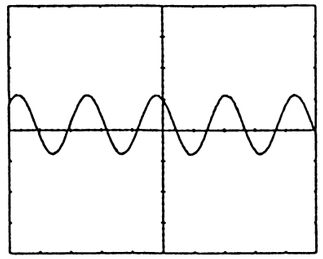
Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

• Waveforms – DECK SECTION –

❶ T621 141Vp-p 88.1kHz

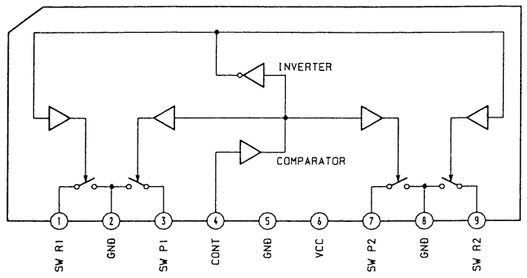


❷ T621 39.2Vp-p 88.1kHz



• IC Block Diagram – DECK SECTION –

IC602 µPC1330HA



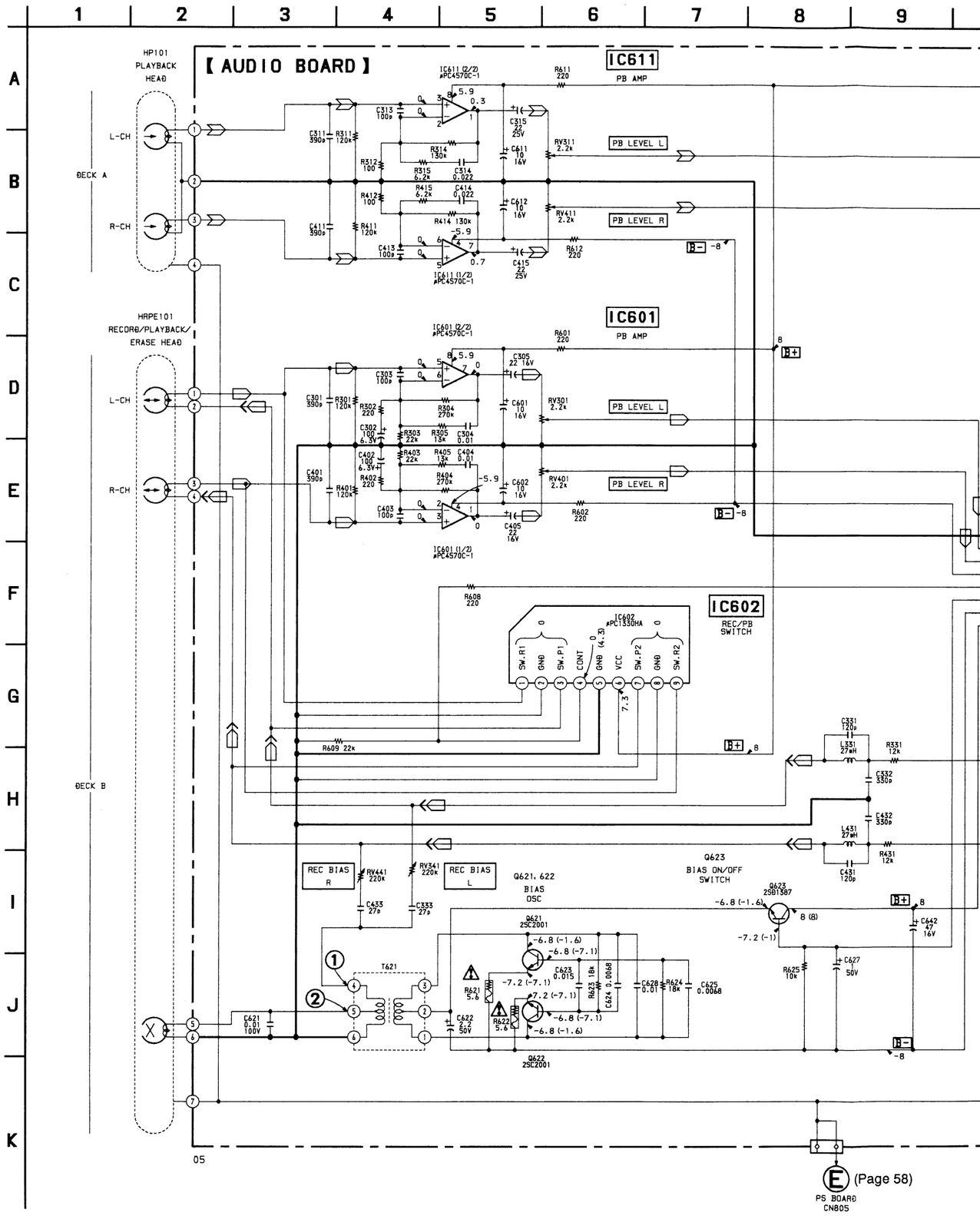
Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ⏦ : fusible resistor.

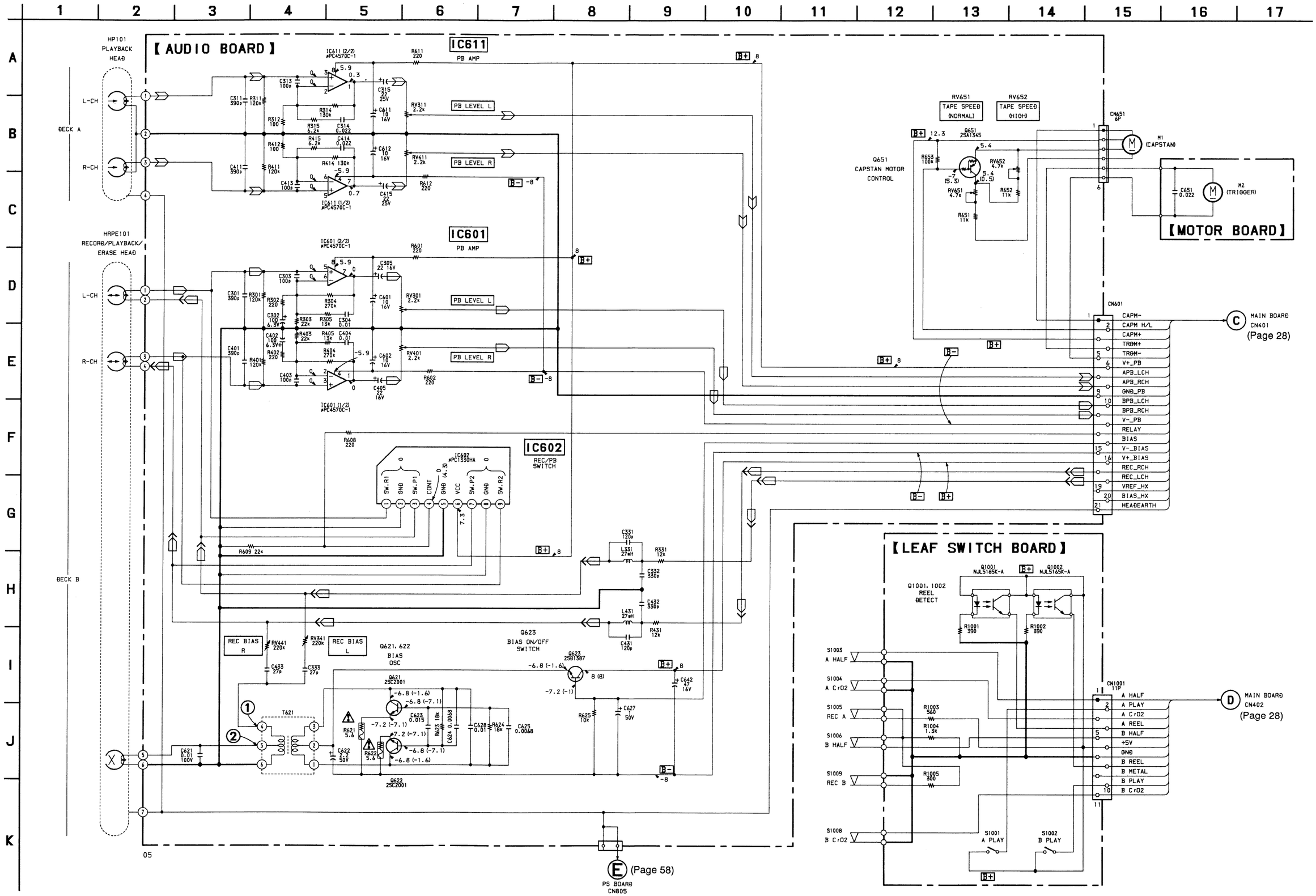
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- B− : B- Line.
- ▭ : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : PLAY
  ( ) : REC
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ▷ : PB (DECK A)
  ▷ : PB (DECK B)
  ▷» : REC (DECK B)

6-11. SCHEMATIC DIAGRAM – DECK SECTION –

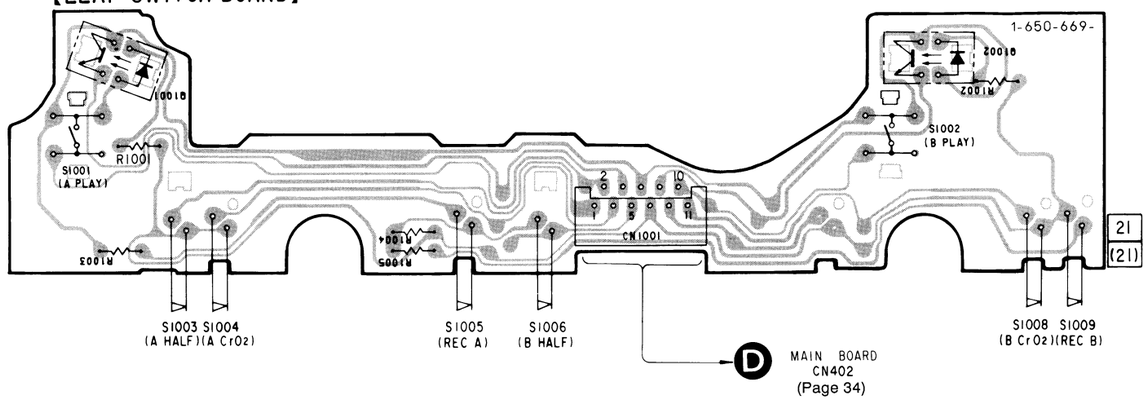


6-11. SCHEMATIC DIAGRAM – DECK SECTION –

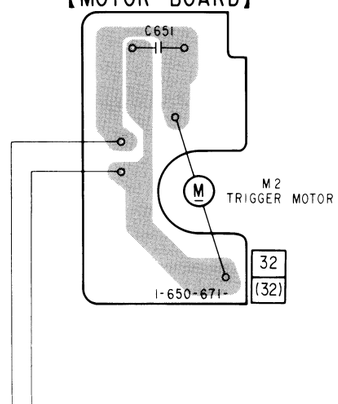


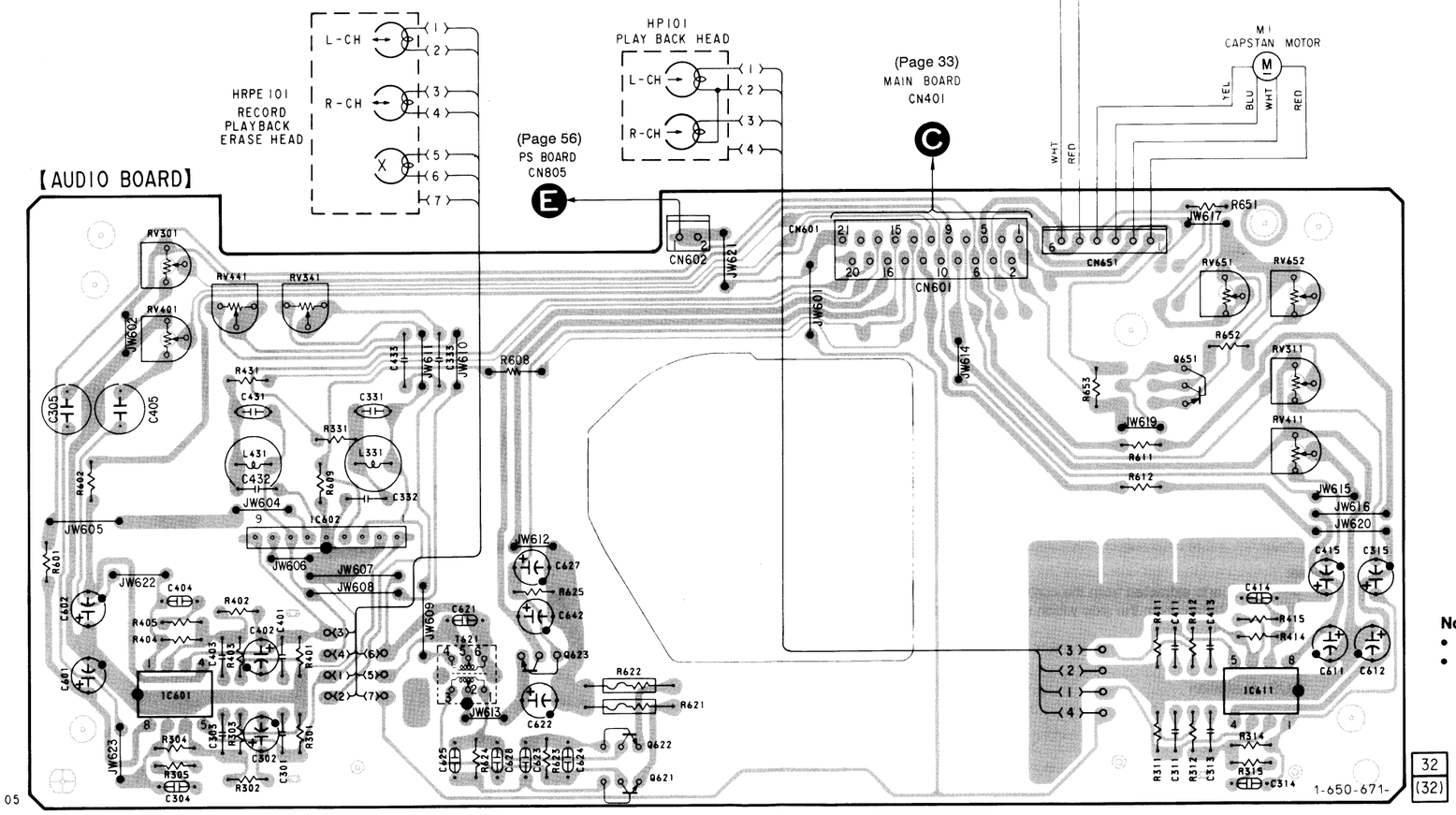
6-12. PRINTED WIRING BOARDS – DECK SECTION – • Refer to page 27 for Circuit Boards Location.

【LEAF SWITCH BOARD】



【MOTOR BOARD】





• **Semiconductor Location**

Ref. No.	Location
IC601	H-3
IC602	G-4
IC611	H-9
Q621	H-6
Q622	H-6
Q623	H-5
Q651	F-9
Q1001	B-2
Q1002	B-6

Note:
- ——o : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

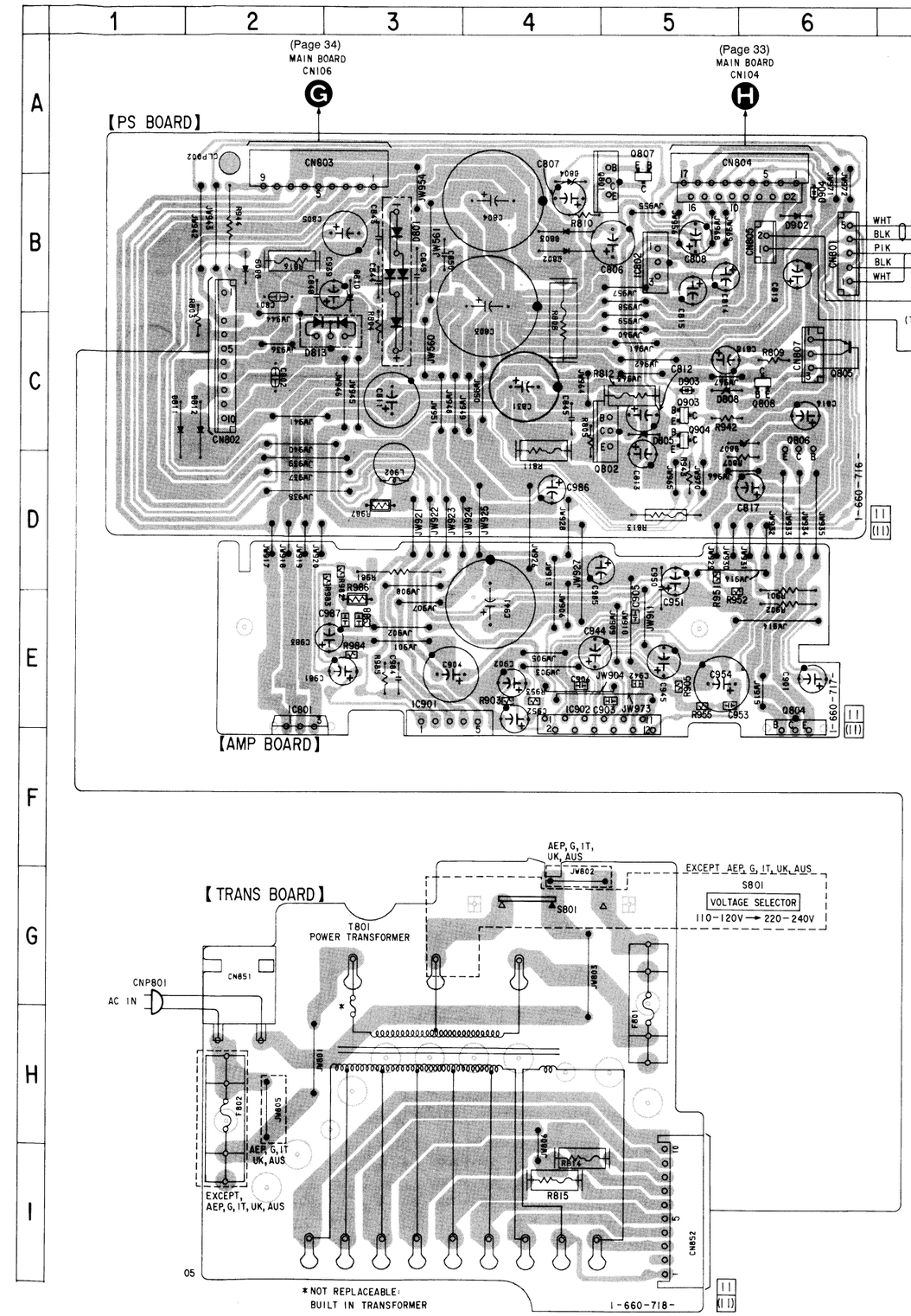
- **Semiconductor Location**

Ref. No.	Location
D801	B-3
D802	B-4
D803	B-4
D804	B-4
D805	C-5
D807	C-6
D808	C-5
D809	B-2
D810	B-3
D811	C-1
D812	C-2
D813	C-2
D902	B-6
D903	C-5
D904	B-6
IC801	E-2
IC802	B-5
IC901	E-3
IC902	E-4
Q801	B-5
Q802	D-5
Q804	E-6
Q806	C-6
Q807	A-5
Q808	C-6
Q903	C-5
Q904	C-5

Note:

- ——o—— : parts extracted from the component side.
- ▒▒▒▒ : Pattern from the side which enables seeing.
- Abbreviation
  G : German
  IT : Italian
  AUS : Australian

6-13. PRINTED WIRING BOARD – POWER SECTION – • Refer to page 27 for Circuit Boards Location.



【AMP BOARD】

【PS BOARD】

【TRANS BOARD】

IC902 POWER AMP
IC902 TA8216H
R_IN, PRE-GND, L_IN, RIPPLE FILTER, L_OUT, VCC, PW-GND, MUTE, R_OUT

IC801 +12V REG.
IC801 M5F7812L

IC802 +7V REG.
IC802 M5F7807L

IC901 POWER AMP
IC901 LM3875

Q903, 904 POWER ON/OFF SWITCH
Q903 MUN2213T1
Q904 MUN2213T1
D903 1SS352
D904 1SS352
D902 1N4148M

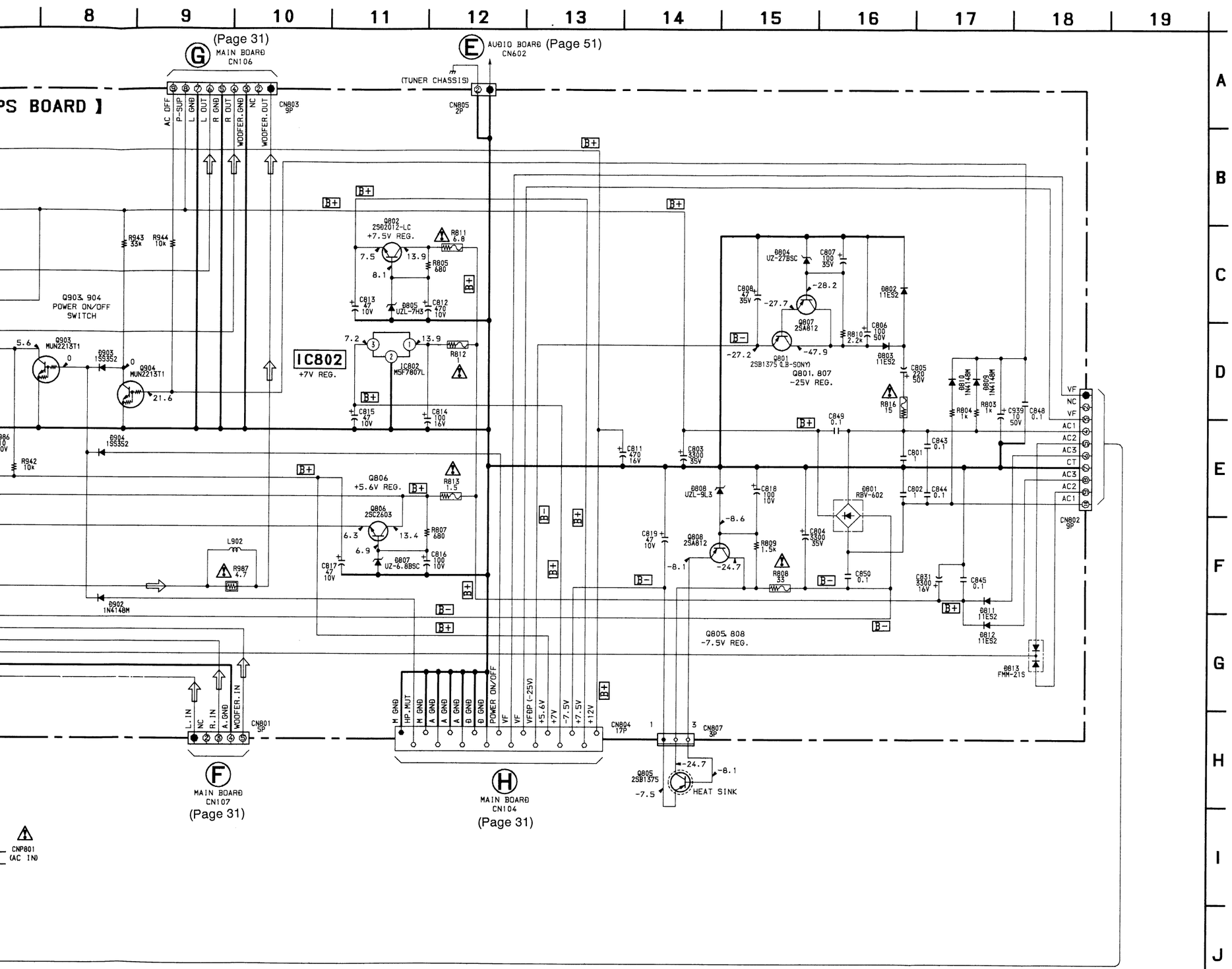
Q804 2SB2012 +5.6V REG.
Q806 2SC2603 +5.6V REG.
Q802 2SD2012-LC +7.5V REG.
Q805, 808 -7.5V REG.
Q801, 807 -25V REG.
Q801 2SB1375 (LB-SONY)
Q807 2SA812
Q808 2SA812
Q805 2SB1375

D801 RBV-602
D802 11ES2
D803 11ES2
D804 UZ-27BSC
D805 UZL-7H3
D806 UZ-6.8BSC
D807 UZL-9L3
D808 UZL-9L3

L902

S801 VOLTAGE SELECTOR 110-120V → 220-240V
(EXCEPT AEP, G, IT, UK, AUS)
(AEP, G, IT, UK, AUS)
JW801, JW802, JW805
F801 0.63A 250V
F802 1.25A 250V
T801 POWER TRANSFORMER
R814, 815

CN803 9P: AC OFF, P-SUP, L GND, L OUT, R GND, R OUT, WOOFER GND, WOOFER OUT, NC
CN805 2P (TUNER CHASSIS)
CN602 (AUDIO BOARD) (Page 51)
CN106 (MAIN BOARD) (Page 31)
CN801 5P: L.IN, NC, R.IN, A.GND, WOOFER.IN
CN107 (MAIN BOARD) (Page 31)
CN804 17P: M GND, HP.MUT, M GND, A GND, A GND, A GND, B GND, B GND, POWER ON/OFF, VF, VF, VFBP (-25V), +5.6V, +7V, -7.5V, +7.5V, +12V
CN807 3P
CN852 10P: VF, NC, VF, AC1, AC2, AC3, CT, AC3, AC2, AC1
CNP801 (AC IN)
HEAT SINK



Note:

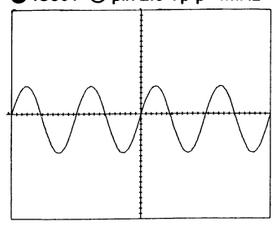
- All capacitors are in µF unless noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : nonflammable resistor.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- B− : B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
- Abbreviation
  G : German
  IT : Italian
  AUS : Australian

• Waveform – PANEL SECTION –

❶ IC501 ㉛ pin 2.6 Vp-p 4MHz

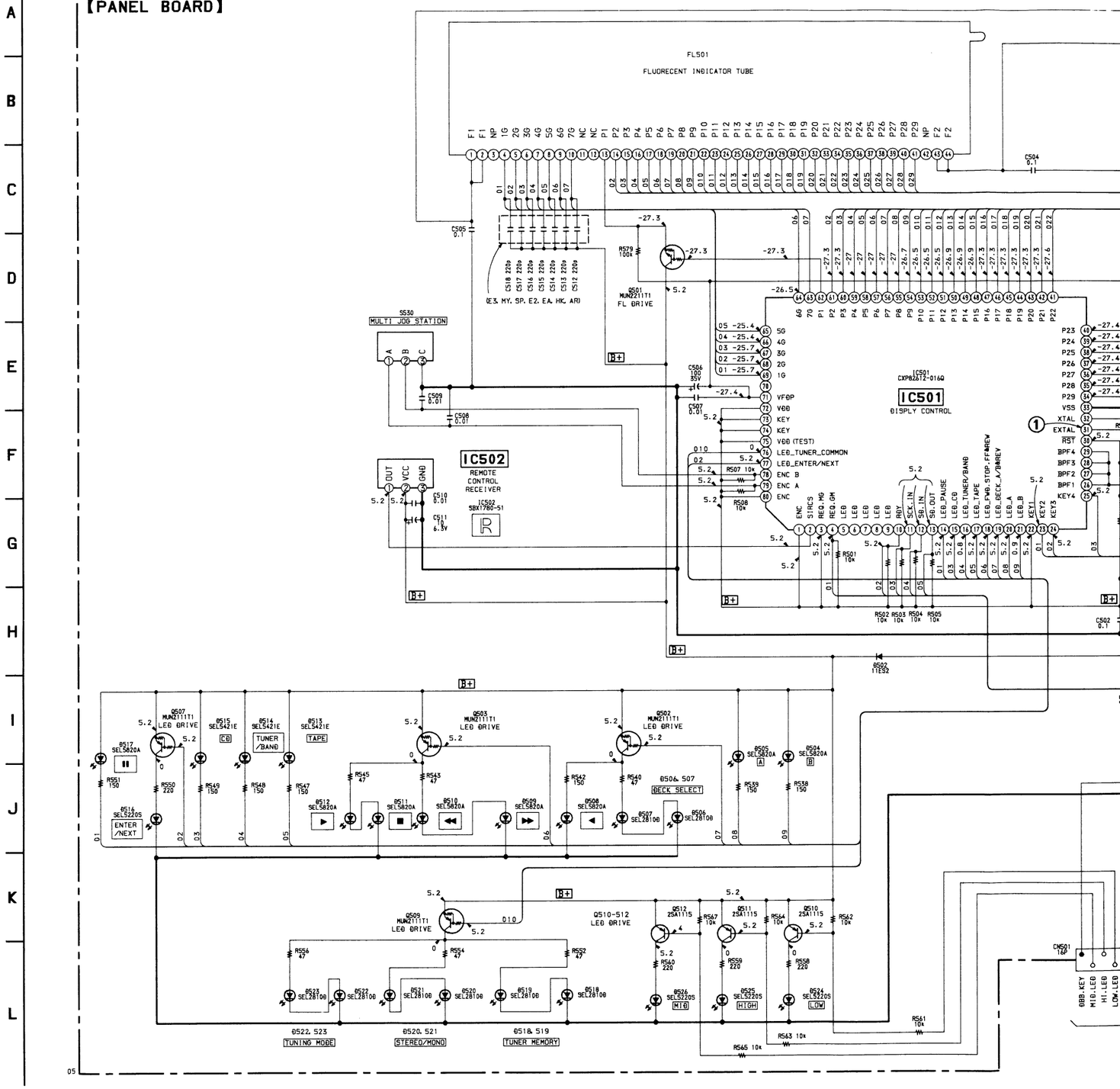


Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- B− : B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Abbreviation
  - E2 : Tuner sections SW BAND do not exist.
  - E3 : Tuner sections SW BAND exist.
  - MY : Malaysia
  - SP : Singapore
  - EA : Saudi Arabia
  - HK : Hong Kong
  - AR : Argentine
  - AUS : Australian

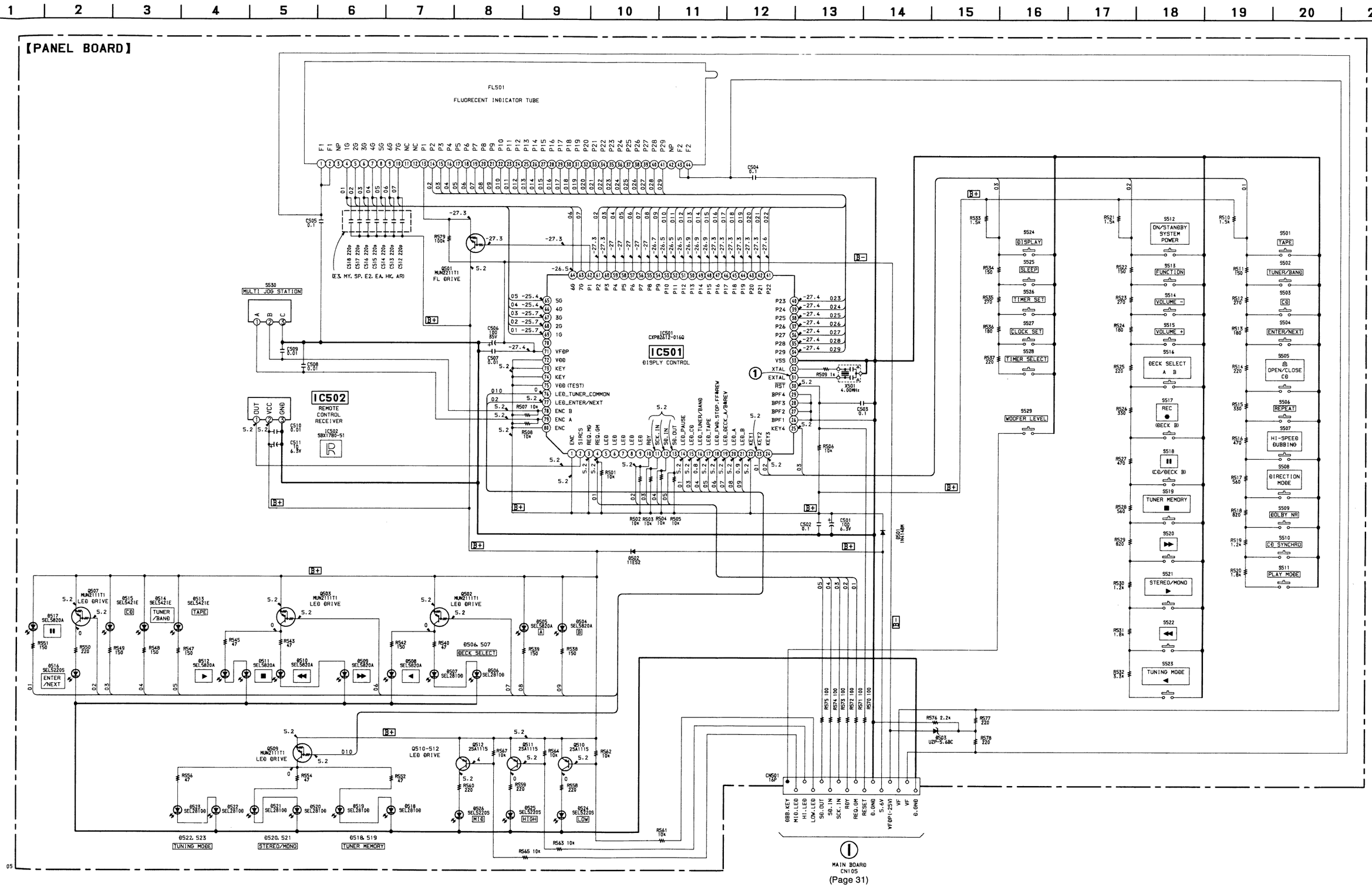
6-15. SCHEMATIC DIAGRAM – PANEL SECTION –

【PANEL BOARD】

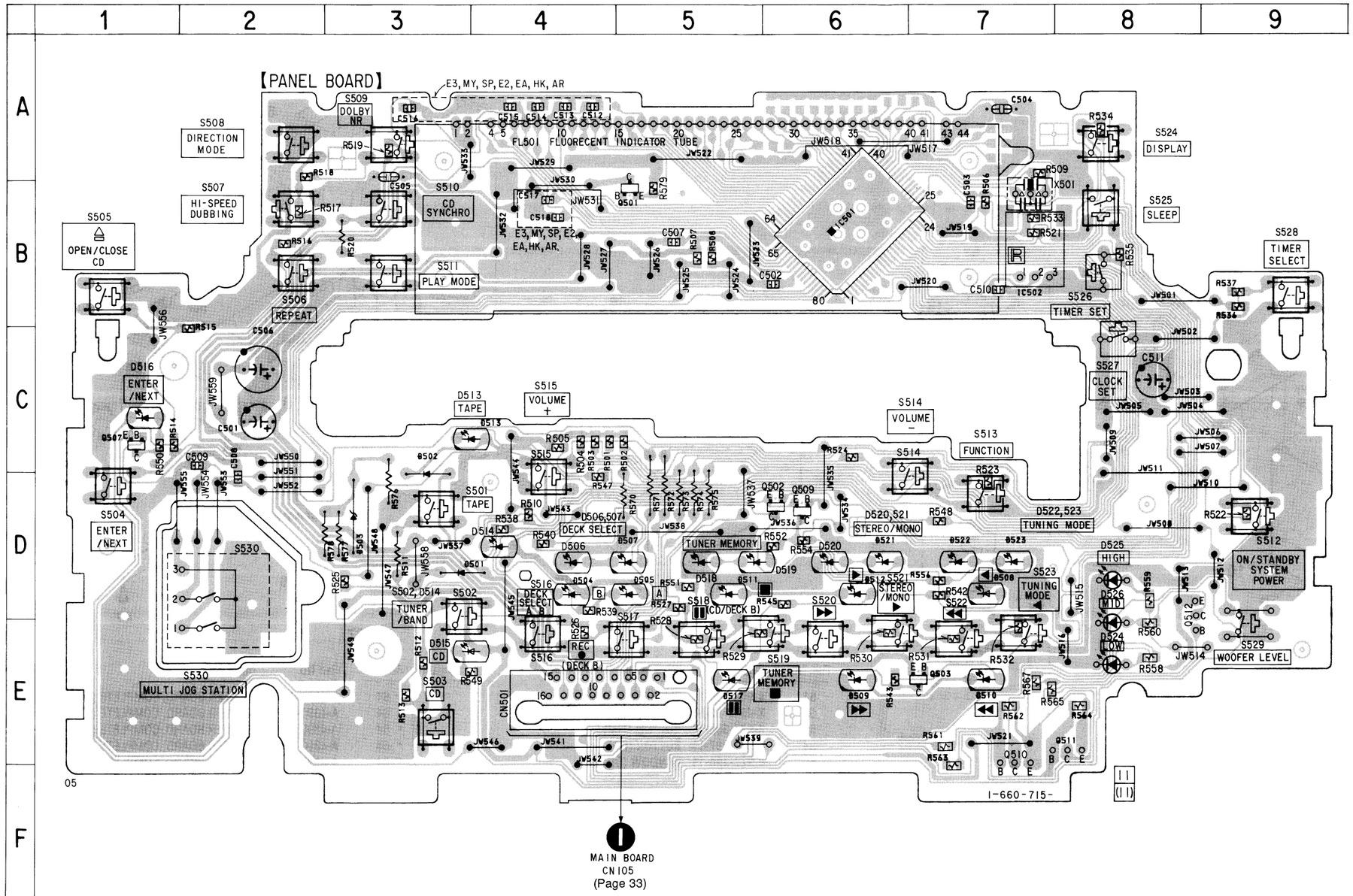


6-15. SCHEMATIC DIAGRAM – PANEL SECTION –

【PANEL BOARD】



6-16. PRINTED WIRING BOARDS – PANEL SECTION – • Refer to page 27 for Circuit Boards Location.



- **Semiconductor Location**

Ref. No.	Location
D501	D-3
D502	C-3
D503	D-3
D504	D-4
D505	D-5
D506	D-4
D507	D-5
D508	D-7
D509	E-6
D510	E-7
D511	D-5
D512	D-6
D513	C-4
D514	D-4
D515	E-3
D516	C-1
D517	E-5
D518	D-5
D519	D-6
D520	D-6
D521	D-6
D522	D-7
D523	D-7
D524	E-8
D525	D-8
D526	E-8
IC501	B-6
IC502	B-7
Q501	B-5
Q502	D-6
Q503	E-7
Q507	C-1
Q509	D-6
Q510	E-7
Q511	E-8
Q512	D-8

Note:

- ○—— : parts extracted from the component side.
- △ : internal component.
- ▒▒ : Pattern from the side which enables seeing.
- Abbreviation
  - E2 : Tuner sections SW BAND do not exist.
  - E3 : Tuner sections SW BAND exist.
  - MY : Malaysia
  - SP : Singapore
  - EA : Saudi Arabia
  - HK : Hong Kong
  - AR : Argentine
  - AUS : Australian

SECTION 7
EXPLODED VIEWS

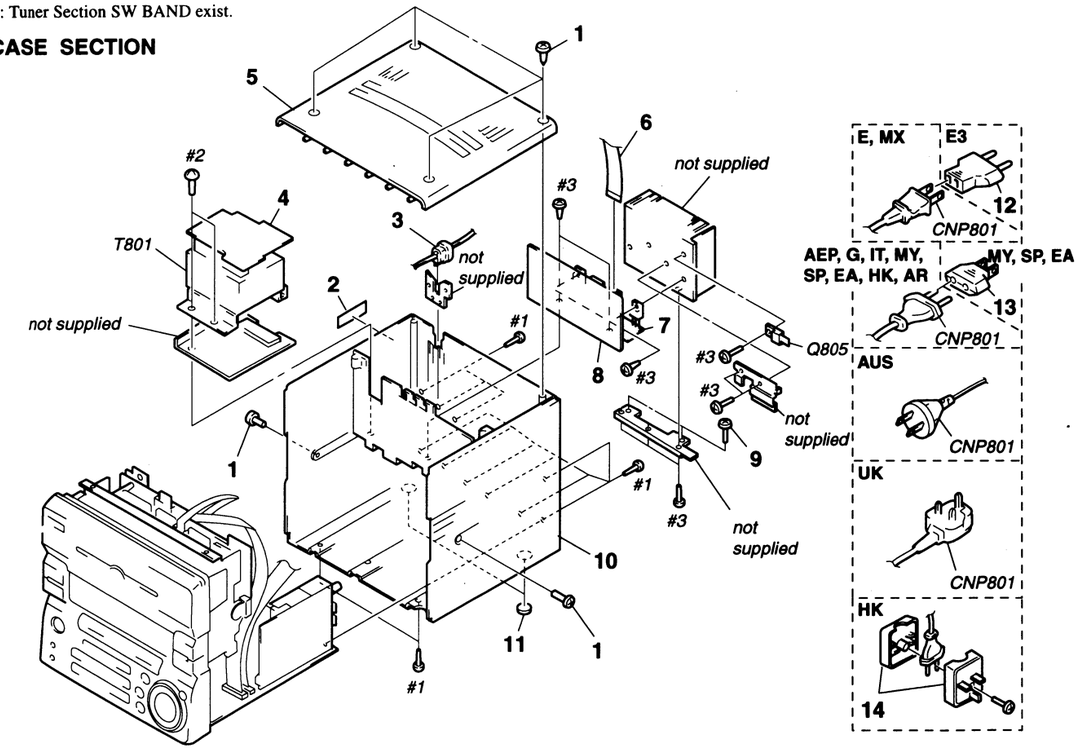
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearrance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Abbreviation
  G : German IT : Italian MY : Malaysia
  SP : Singapore MX : Mexican EA : Sausi Arabia
  HK : Hong Kong AR : Argentine AUS: Australian
  E2 : Tuner Section SW BAND do not exist.
  E3 : Tuner Section SW BAND exist.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list are given in the last of the electrical parts list.

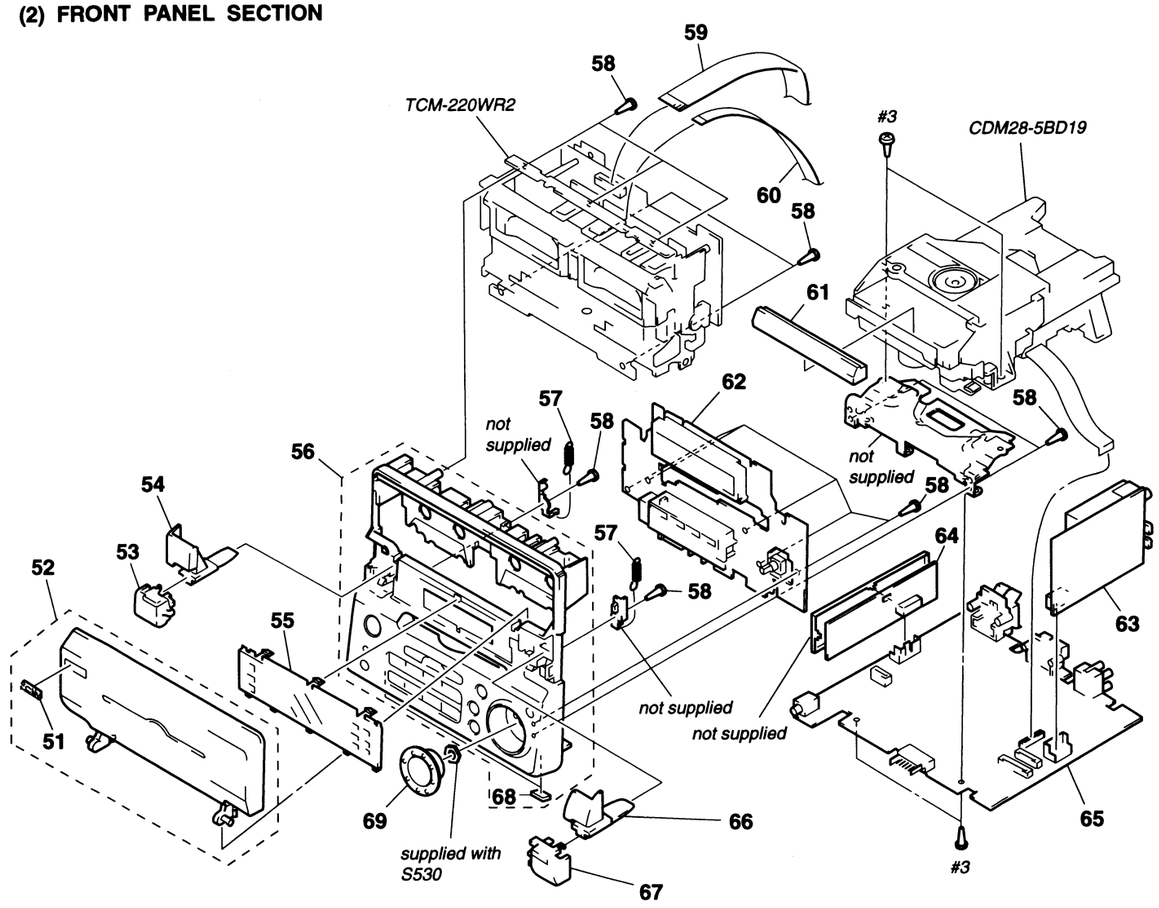
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

(1) CASE SECTION



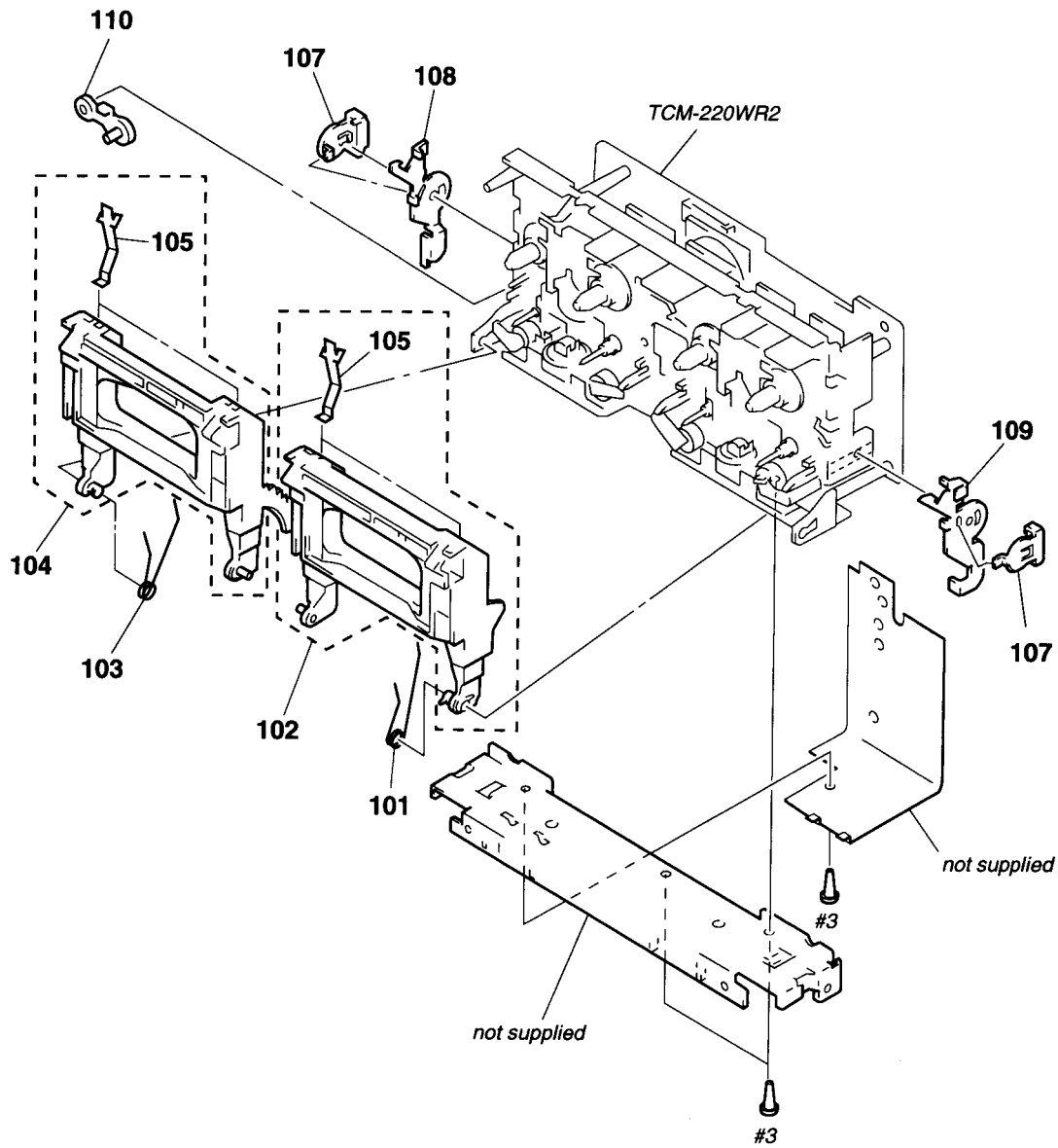
Ref. No.	Part No.	Description	Remark
1	3-363-099-01	SCREW (CASE 3 TP2)	
* 2	4-941-548-01	LABEL, CLASS (1) (EXCEPT UK, MX)	
3	3-703-244-11	BUSHING (2104), CORD (AEP, G, IT, UK, MY, SP, AUS)	
3	3-703-571-00	BUSHING (S) (4516), CORD (E,MX,EA,HK,AR)	
* 4	1-660-718-11	TRANS BOARD	
5	4-977-370-41	PLATE, TOP	
6	1-773-052-11	WIRE (FLAT TYPE) (17 CORE)	
* 7	A-4390-033-A	AMP BOARD, COMPLETE (AEP, G, IT)	
* 7	A-4390-041-A	AMP BOARD, COMPLETE (UK)	
* 7	A-4390-047-A	AMP BOARD, COMPLETE (E, EA, HK, AR, AUS)	
* 7	A-4390-054-A	AMP BOARD, COMPLETE (MY, SP)	
* 7	A-4390-059-A	AMP BOARD, COMPLETE (MX)	
* 8	A-4390-034-A	PS BOARD, COMPLETE (AEP, G, IT)	
* 8	A-4390-042-A	PS BOARD, COMPLETE (UK)	
* 8	A-4390-048-A	PS BOARD, COMPLETE (E, EA, HK, AR, AUS)	
* 8	A-4390-055-A	PS BOARD, COMPLETE (MY, SP)	
* 8	A-4390-060-A	PS BOARD, COMPLETE (MX)	
9	4-979-267-01	SCREW (3X16) (P) (TIGHT), +BV	
10	4-977-369-61	CASE (AEP, G, IT, UK, AUS)	
10	4-977-369-71	CASE (E, MY, SP, MX, EA, HK, AR)	
11	4-985-131-01	FOOT (FELT)	
⚠12	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)	
⚠13	1-569-008-11	ADAPTOR, CONVERSION 2P (MY, SP, EA)	
⚠14	1-770-019-12	ADAPTOR, CONVERSION PLUG 3P (HK)	
⚠CNP801	1-558-943-41	CORD, POWER (E, MX)	
⚠CNP801	1-575-651-21	CORD, POWER (AEP,G,IT,MY,SP,EA,HK,AR)	
⚠CNP801	1-696-845-11	CORD, POWER (AUS)	
⚠CNP801	1-751-522-11	CORD, POWER (UK)	
Q805	8-729-141-83	TRANSISTOR 2SB1375	
⚠T801	1-429-900-11	TRANSFORMER, POWER (EXCEPT AEP, G, IT, UK)	
⚠T801	1-429-901-11	TRANSFORMER, POWER (AEP, G, IT, UK)	

(2) FRONT PANEL SECTION



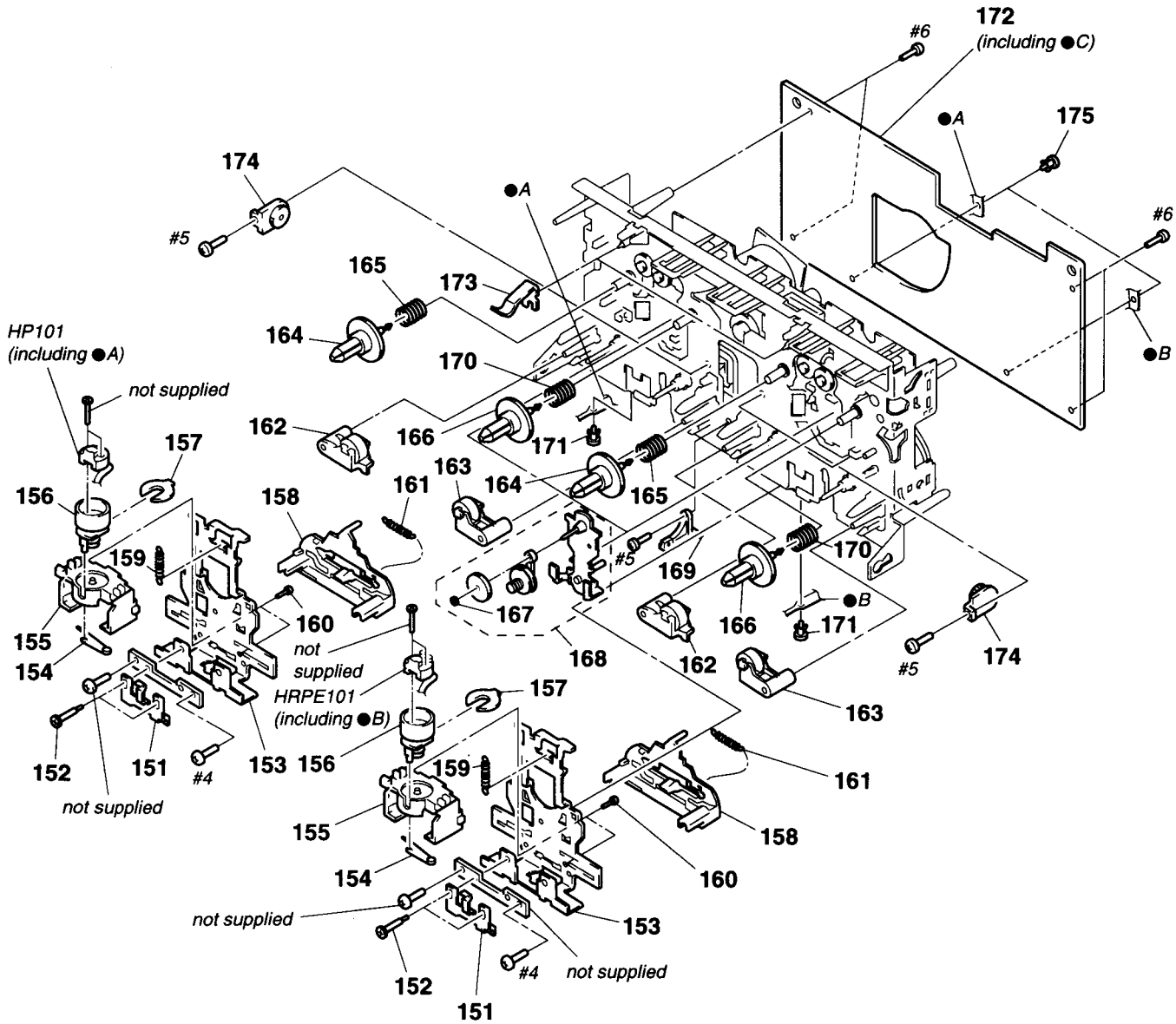
Ref. No.	Part No.	Description	Remark
51	4-962-708-11	EMBLEM (4-A), SONY	
52	X-4947-020-1	LID ASSY, CASSETTE	
53	4-977-382-11	BUTTON (TIM)	
54	4-977-397-11	BUTTON (EJ-L)	
55	4-977-396-11	WINDOW (DIS)	
56	X-4947-019-1	PANEL ASSY, FRONT	
57	4-977-392-11	SPRING (F), TENSION	
58	4-951-620-01	SCREW (2.6X8), +BVTP	
59	1-777-060-11	WIRE (FLAT TYPE) (21 CORE)	
60	1-777-062-11	WIRE (FLAT TYPE) (11 CORE)	
61	4-977-401-11	PANEL, LOADING	
* 62	A-4390-032-A	PANEL BOARD, COMPLETE (AEP, G, IT)	
* 62	A-4390-040-A	PANEL BOARD, COMPLETE (UK)	
* 62	A-4390-046-A	PANEL BOARD, COMPLETE (E3, EA, HK)	
* 62	A-4390-052-A	PANEL BOARD, COMPLETE (MY, SP)	
* 62	A-4390-053-A	PANEL BOARD, COMPLETE (MX)	
* 62	A-4390-634-A	PANEL BOARD, COMPLETE (E2, AR, AUS)	
* 63	A-4303-533-A	TCB BOARD, COMPLETE (AEP, G, IT, UK)	
* 63	A-4303-534-A	TCB BOARD, COMPLETE (E3, HK, EA, MY, SP)	
* 63	A-4303-535-A	TCB BOARD, COMPLETE (E2, AR, AUS, MX)	
* 64	A-4390-036-A	WOOFER BOARD, COMPLETE (AEP, G, IT)	
* 64	A-4390-045-A	WOOFER BOARD, COMPLETE (UK)	
* 64	A-4390-051-A	WOOFER BOARD, COMPLETE (E,EA,HK,AR,AUS)	
* 64	A-4390-058-A	WOOFER BOARD, COMPLETE (MY, SP)	
* 64	A-4390-063-A	WOOFER BOARD, COMPLETE (MX)	
* 65	A-4390-037-A	MAIN BOARD, COMPLETE (AEP)	
* 65	A-4390-038-A	MAIN BOARD, COMPLETE (G)	
* 65	A-4390-039-A	MAIN BOARD, COMPLETE (IT)	
* 65	A-4390-044-A	MAIN BOARD, COMPLETE (UK)	
* 65	A-4390-050-A	MAIN BOARD, COMPLETE (E3, HK)	
* 65	A-4390-057-A	MAIN BOARD, COMPLETE (MY, SP)	
* 65	A-4390-062-A	MAIN BOARD, COMPLETE (MX)	
* 65	A-4390-635-A	MAIN BOARD, COMPLETE (E2, AR)	
* 65	A-4390-636-A	MAIN BOARD, COMPLETE (EA)	
* 65	A-4390-638-A	MAIN BOARD, COMPLETE (AUS)	
66	4-977-398-11	BUTTON (EJ-R)	
67	4-977-383-11	BUTTON (O/C)	
68	4-985-132-01	FOOT (FELT)	
69	4-977-402-11	KNOB (JOG)	

(3) MD ASS'Y SECTION



Ref. No.	Part No.	Description	Remark
101	4-959-232-11	SPRING (R), TORSION	
102	X-4946-760-1	HOLDER (R) ASSY, CASSETTE	
103	4-959-231-11	SPRING (L), TORSION	
104	X-4946-761-1	HOLDER (L) ASSY, CASSETTE	
105	4-959-229-11	DETENT, CASSETTE	
107	3-354-957-01	JOINT (LOCK LEVER)	
108	3-367-709-21	LEVER (LOCK LEVER L)	
* 109	4-965-877-11	LEVER (LOCK LEVER R)	
110	3-938-863-01	STOPPER	

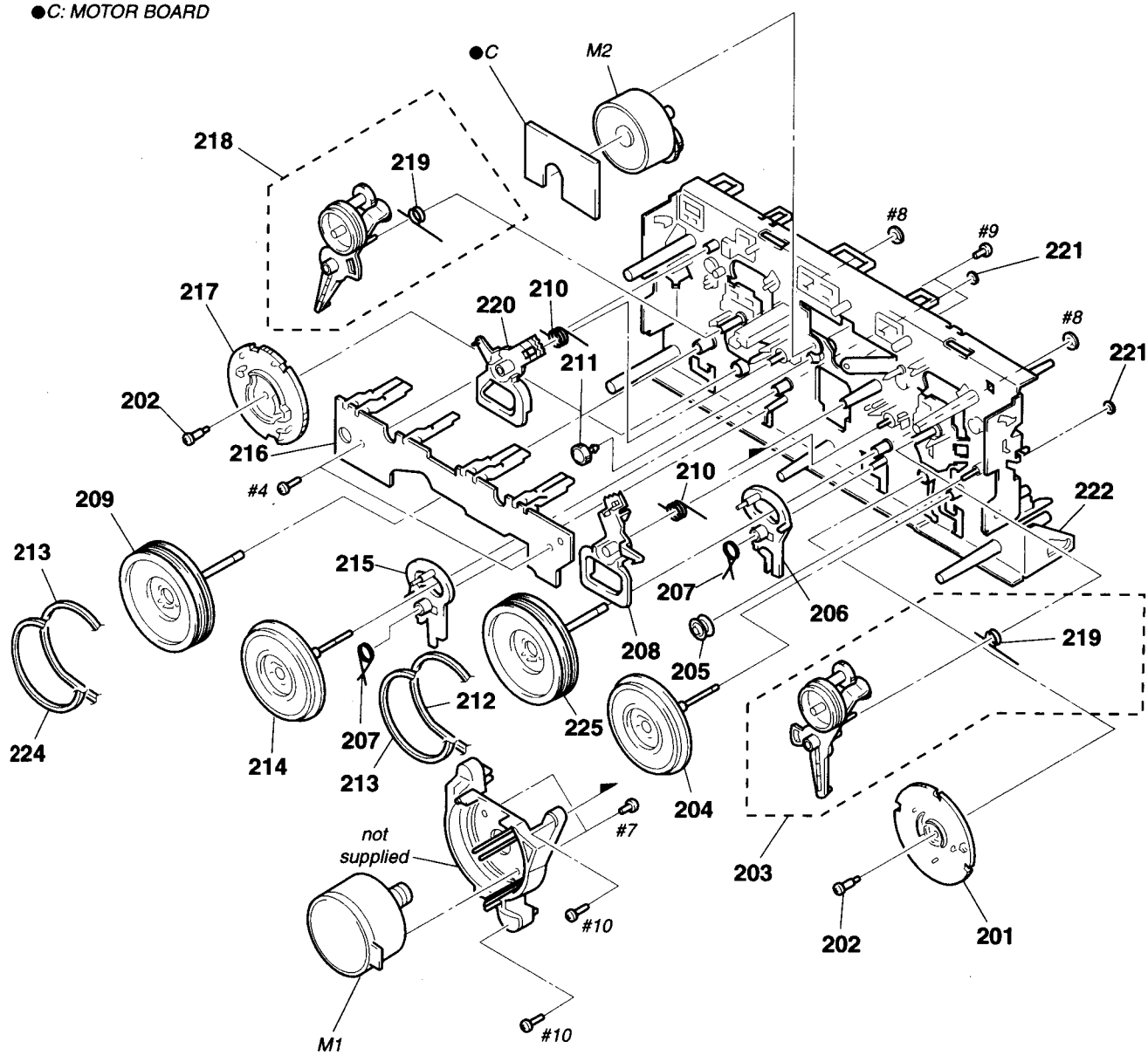
(4) TAPE MECHANISM SECTION-1 (TCM-220WR2)



Ref. No.	Part No.	Description	Remark
151	3-908-560-01	SPRING, AZIMUTH ADJUSTMENT	
152	3-919-684-01	SCREW, AZIMUTH ADJUSTMENT	
153	X-3370-844-1	SLIDER (HEAD) ASSY	
154	3-908-556-01	SPRING, HEAD TOGGLE	
155	3-908-558-02	FITTING BLOCK, HEAD	
156	3-908-557-02	ROTARY BLOCK, HEAD	
* 157	3-908-559-01	STOPPER, AZIMUTH	
158	3-908-555-01	SLIDER (REV SLIDER)	
159	3-917-143-11	SPRING, TENSION	
160	3-388-848-01	SCREW (P2X6) (B TIGHT)	
161	3-911-113-01	SPRING, TENSION	
162	X-3369-909-1	PINCH LEVER (REV) ASSY	
163	X-3369-908-1	PINCH LEVER (FWD) ASSY	
164	3-908-613-01	GEAR (S), REEL	
165	3-917-141-01	SPRING, COMPRESSION	
166	X-3371-305-1	REEL (T) ASSY	
167	3-669-465-01	WASHER (1.5), STOPPER	
168	X-3370-173-1	TU ASSY	
* 169	4-980-439-01	FULCRUM, HOLDER	
170	3-917-142-01	SPRING, COMPRESSION	
171	3-911-116-21	RIVET, PUSH	
* 172	A-2007-131-A	AUDIO BOARD, COMPLETE	
173	3-930-972-01	DETENT, HALF	
174	3-354-963-01	DAMPER	
175	3-911-116-11	RIVET, PUSH	
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK) (DECK A)	
HRPE101	1-500-094-11	HEAD, MAGNETIC (REC/PB/ERASE) (DECK B)	

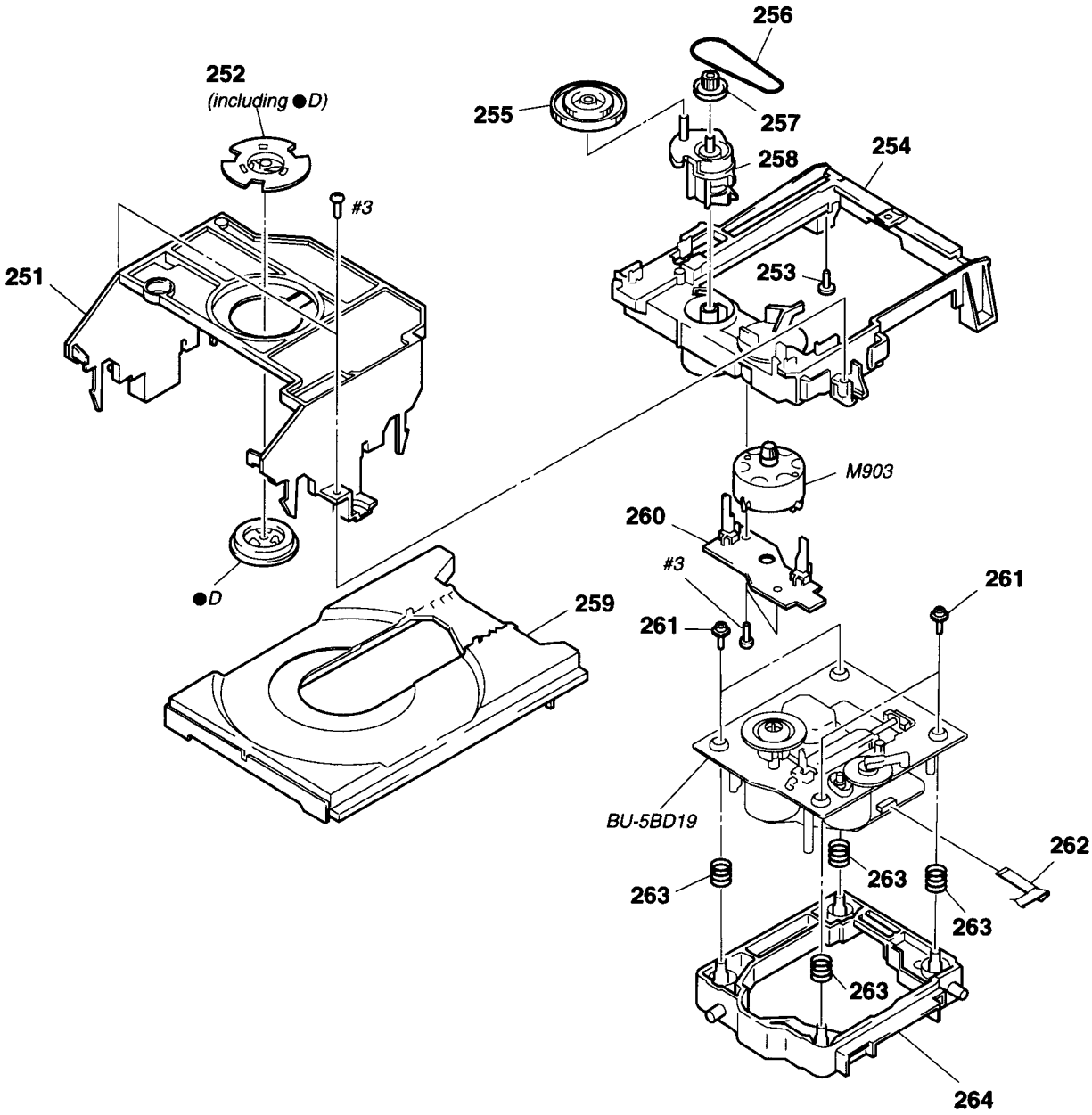
(5) TAPE MECHANISM SECTION-2 (TCM-220WR2)

●C: MOTOR BOARD



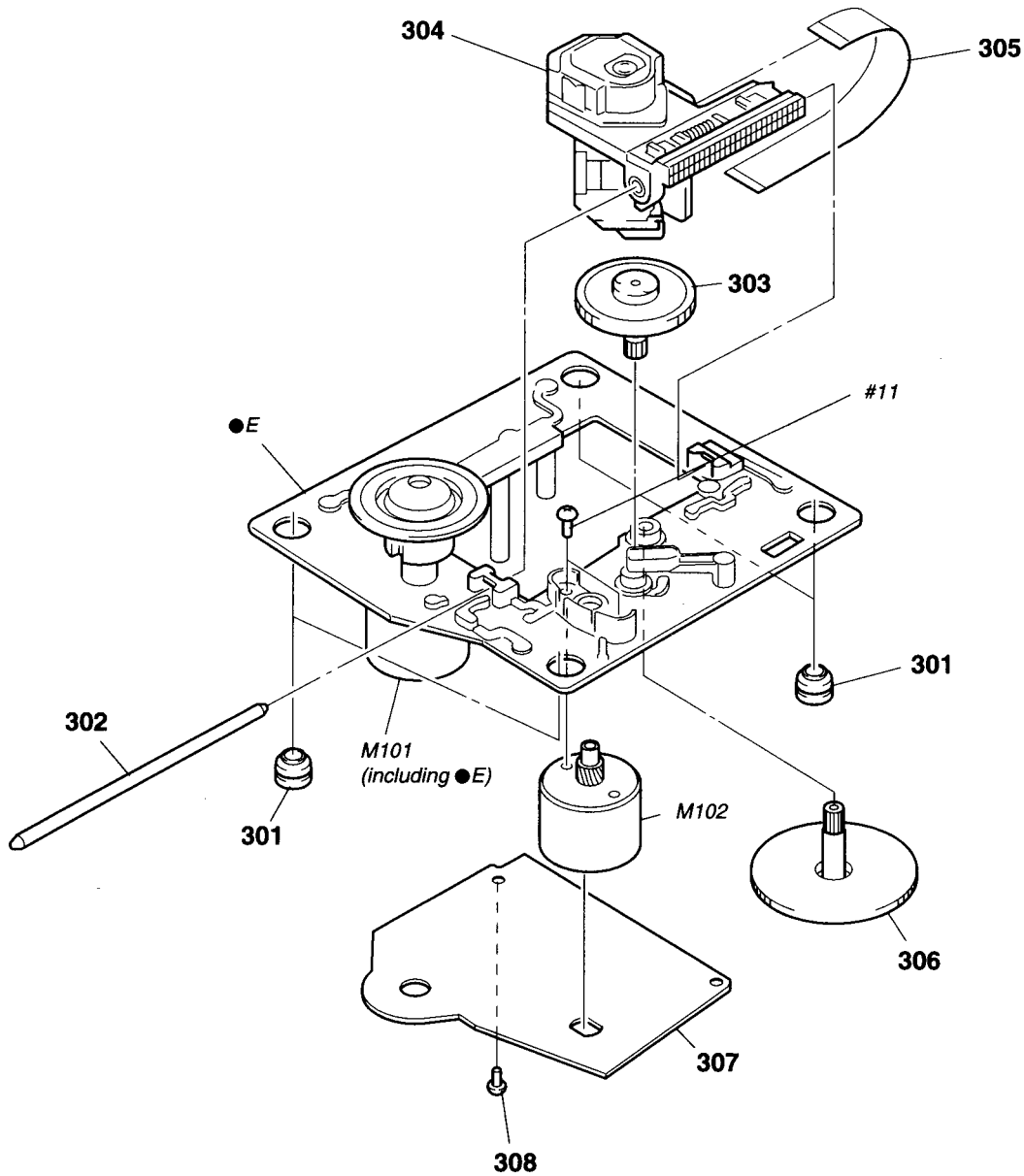
Ref. No.	Part No.	Description	Remark
201	3-908-597-01	CAM (A)	
202	3-908-608-11	SCREW, STEP	
203	X-3372-930-1	ARM (A) ASSY, FR	
204	X-3370-169-1	FLYWHEEL (AR) ASSY	
205	3-928-047-01	PULLEY, TENSION	
206	3-908-599-01	LEVER (REV-A)	
207	3-908-601-01	SPRING (REV LEVER), TORSION	
208	3-908-603-12	LEVER (TRIGGER A)	
209	X-3367-593-1	FLYWHEEL (BF) ASSY	
210	3-908-605-01	SPRING (TRIGGER), TORSION	
211	3-908-609-01	GEAR, TRIGGER	
212	3-913-845-11	BELT (A)	
213	3-913-846-11	BELT (FR)	
214	X-3370-171-1	FLYWHEEL (BR) ASSY	
215	3-908-600-01	LEVER (REV-B)	
* 216	1-650-669-11	LEAF SWITCH BOARD	
217	3-908-598-01	CAM (B)	
218	X-3372-931-1	ARM (B) ASSY, FR	
219	3-911-114-01	SPRING (FR), TORSION	
220	3-908-604-01	LEVER (TRIGGER B)	
221	3-911-115-01	WASHER, STOPPER	
222	X-3371-441-1	CHASSIS ASSY, MECHANICAL	
224	3-917-176-11	BELT (B)	
225	X-3370-172-1	FLYWHEEL (AF) ASSY	
M1	X-3371-223-1	MOTOR ASSY, CAPSTAN	
M2	A-2004-410-A	MOTOR ASSY, DC (TRIGGER)	

(6) CD MECHANISM SECTION (CDM28-5BD19)



Ref. No.	Part No.	Description	Remark
251	4-960-835-01	HOLDER (M)	
252	1-452-719-11	MAGNET ASSY	
253	4-917-583-21	BRACKET, YOKE	
254	4-960-838-03	BASE (MD)	
255	4-960-842-01	GEAR (P)	
256	4-927-649-01	BELT	
257	4-960-841-01	PULLEY (S)	
* 258	4-960-839-01	CAM	
259	4-960-836-01	TABLE, DISC	
* 260	1-650-836-11	LOADING BOARD	
261	4-933-134-01	SCREW (+PTPWH M2.6X6)	
262	1-776-220-11	WIRE (FLAT TYPE) (19 CORE)	
263	4-959-996-01	SPRING (932), COMPRESSION	
264	4-960-834-01	HOLDER (BU)	
M903	A-4604-363-A	MOTOR (L) ASSY (LOADING)	

(7) OPTICAL PICK-UP SECTION (BU-5BD19)



Ref. No.	Part No.	Description	Remark
301	4-951-940-01	INSULATOR (BU)	
302	4-917-565-01	SHAFT, SLED	
303	4-917-567-01	GEAR (M)	
⚠304	8-848-387-01	OPTICAL PICK-UP KSS-213BA/S-N	
305	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
306	4-917-564-01	GEAR (P), FLATNESS	
* 307	A-4673-402-A	BD BOARD, COMPLETE	
308	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-504-1	MOTOR ASSY (SLED)	
M102	X-4917-523-4	MOTOR ASSY (SPINDLE)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

AMP

AUDIO (including MOTOR)

SECTION 8
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA. . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. .
  uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH
- Abbreviation
  G : German IT : Italian
  E2 : Tuner Sections SW BAND do not exist.
  E3 : Tuner Sections SW BAND exist.
  MY : Malaysia SP : Singapore MX : Mexican
  EA : Saudi Arabia HK : Hong Kong AR : Argentine
  AUS : Australian

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-4390-033-A	AMP BOARD, COMPLETE (AEP, G, IT)			
*	A-4390-041-A	AMP BOARD, COMPLETE (UK)			
*	A-4390-047-A	AMP BOARD, COMPLETE (E2, E3, EA, HK, AR, AUS)			
*	A-4390-054-A	AMP BOARD, COMPLETE (MY,SP)			
*	A-4390-059-A	AMP BOARD, COMPLETE (MX)			
		**********			
*	3-923-762-11	HOLDER (TR)			
		<CAPACITOR>			
C901	1-124-925-11	ELECT	2.2uF	20%	100V
C902	1-126-947-11	ELECT	47uF	20%	35V
C903	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C904	1-126-951-11	ELECT	470uF	20%	35V
C905	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C906	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C941	1-128-136-11	ELECT	2200uF	20%	35V
C942	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C944	1-126-947-11	ELECT	47uF	20%	35V
C945	1-126-947-11	ELECT	47uF	20%	35V
C950	1-162-306-11	CERAMIC	0.01uF	30%	16V
C951	1-124-925-11	ELECT	2.2uF	20%	100V
C952	1-126-947-11	ELECT	47uF	20%	35V
C953	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C954	1-126-971-11	ELECT	470uF	20%	35V
C981	1-124-925-11	ELECT	2.2uF	20%	100V
C983	1-126-965-11	ELECT	22uF	20%	50V
C984	1-162-191-31	CERAMIC	2.2PF	10%	50V
C985	1-126-964-11	ELECT	10uF	20%	50V
C987	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C988	1-163-038-00	CERAMIC CHIP	0.1uF		25V
		<IC>			
IC801	8-759-231-58	IC TA7812S			
IC901	8-759-069-56	IC LM3875-Q			
IC902	8-759-168-24	IC TA8216H			
		<TRANSISTOR>			
Q804	8-729-209-15	TRANSISTOR 2SD2012			

Ref. No.	Part No.	Description			Remark
		<RESISTOR>			
R901	1-249-435-11	CARBON	33K	5%	1/4W
R902	1-249-435-11	CARBON	33K	5%	1/4W
R903	1-216-295-00	CONDUCTOR, CHIP (2012)			
R905	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R951	1-216-085-00	METAL CHIP	33K	5%	1/10W
R952	1-216-085-00	METAL CHIP	33K	5%	1/10W
R953	1-216-295-00	CONDUCTOR, CHIP (2012)			
R955	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R981	1-249-417-11	CARBON	1K	5%	1/4W
R982	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R983	1-216-081-00	METAL CHIP	22K	5%	1/10W
R984	1-216-037-00	METAL CHIP	330	5%	1/10W
R985	1-249-433-11	CARBON	22K	5%	1/4W
⚠R986	1-249-389-11	CARBON	4.7	5%	1/4W F
		**********			
	A-2007-131-A	AUDIO BOARD, COMPLETE (including MOTOR BOARD)			
		**********			
		<CAPACITOR>			
C301	1-162-289-31	CERAMIC	390PF	10%	50V
C302	1-126-968-11	ELECT	100uF	20%	6.3V
C303	1-162-282-31	CERAMIC	100PF	10%	50V
C304	1-130-483-00	MYLAR	0.01uF	5%	50V
C305	1-107-715-11	ELECT	22uF	20%	16V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C313	1-162-282-31	CERAMIC	100PF	10%	50V
C314	1-130-487-00	MYLAR	0.022uF	5%	50V
C315	1-126-233-11	ELECT	22uF	20%	50V
C331	1-137-427-11	FILM	120PF	5%	50V
C332	1-162-288-31	CERAMIC	330PF	10%	50V
C333	1-162-209-31	CERAMIC	27PF	5%	50V
C401	1-162-289-31	CERAMIC	390PF	10%	50V
C402	1-126-968-11	ELECT	100uF	20%	6.3V
C403	1-162-282-31	CERAMIC	100PF	10%	50V
C404	1-130-483-00	MYLAR	0.01uF	5%	50V
C405	1-107-715-11	ELECT	22uF	20%	16V

Ref. No.	Part No.	Description				Remark
C411	1-162-289-31	CERAMIC	390PF	10%	50V	
C413	1-162-282-31	CERAMIC	100PF	10%	50V	
C414	1-130-487-00	MYLAR	0.022uF	5%	50V	
C415	1-126-233-11	ELECT	22uF	20%	50V	
C431	1-137-427-11	FILM	120PF	5%	50V	
C432	1-162-288-31	CERAMIC	330PF	10%	50V	
C433	1-162-209-31	CERAMIC	27PF	5%	50V	
C601	1-104-396-11	ELECT	10uF	20%	50V	
C602	1-104-396-11	ELECT	10uF	20%	50V	
C611	1-104-396-11	ELECT	10uF	20%	50V	
C612	1-104-396-11	ELECT	10uF	20%	50V	
C621	1-137-150-11	FILM	0.01uF	5%	100V	
C622	1-126-961-11	ELECT	2.2uF	20%	50V	
C623	1-136-155-00	FILM	0.015uF	5%	50V	
C624	1-130-481-00	MYLAR	0.0068uF	5%	50V	
C625	1-130-481-00	MYLAR	0.0068uF	5%	50V	
C627	1-124-903-11	ELECT	1uF	20%	50V	
C628	1-136-153-00	FILM	0.01uF	5%	50V	
C642	1-104-664-11	ELECT	47uF	20%	16V	
C651	1-161-494-00	CERAMIC	0.022uF		25V	
		<CONNECTOR>				
* CN601	1-568-864-11	SOCKET, CONNECTOR 21P				
* CN602	1-564-718-11	PIN, CONNECTOR (SMALL TYPE) 2P				
* CN651	1-564-521-11	PLUG, CONNECTOR 6P				
		<IC>				
IC601	8-759-111-44	IC uPC4570C-1				
IC602	8-759-143-54	IC uPC1330HA				
IC611	8-759-111-44	IC uPC4570C-1				
		<COIL>				
L331	1-410-780-11	INDUCTOR	27mH			
L431	1-410-780-11	INDUCTOR	27mH			
		<TRANSISTOR>				
Q621	8-729-142-46	TRANSISTOR 2SC2001-LK				
Q622	8-729-142-46	TRANSISTOR 2SC2001-LK				
Q623	8-729-801-93	TRANSISTOR 2SD1387				
Q651	8-729-900-65	TRANSISTOR DTA144ES				
		<RESISTOR>				
R301	1-247-881-00	CARBON	120K	5%	1/4W	
R302	1-249-409-11	CARBON	220	5%	1/4W	
R303	1-249-433-11	CARBON	22K	5%	1/4W	
R304	1-247-889-00	CARBON	270K	5%	1/4W	
R305	1-247-858-11	CARBON	13K	5%	1/4W	
R311	1-247-881-00	CARBON	120K	5%	1/4W	
R312	1-247-807-31	CARBON	100	5%	1/4W	
R314	1-247-882-11	CARBON	130K	5%	1/4W	
R315	1-247-850-11	CARBON	6.2K	5%	1/4W	
R331	1-249-430-11	CARBON	12K	5%	1/4W	
R401	1-247-881-00	CARBON	120K	5%	1/4W	
R402	1-249-409-11	CARBON	220	5%	1/4W	
R403	1-249-433-11	CARBON	22K	5%	1/4W	
R404	1-247-889-00	CARBON	270K	5%	1/4W	
R405	1-247-858-11	CARBON	13K	5%	1/4W	
R411	1-247-881-00	CARBON	120K	5%	1/4W	
R412	1-247-807-31	CARBON	100	5%	1/4W	
R414	1-247-882-11	CARBON	130K	5%	1/4W	
R415	1-247-850-11	CARBON	6.2K	5%	1/4W	
R431	1-249-430-11	CARBON	12K	5%	1/4W	
R601	1-249-409-11	CARBON	220	5%	1/4W	
R602	1-249-409-11	CARBON	220	5%	1/4W	
R608	1-249-409-11	CARBON	220	5%	1/4W	
R609	1-249-433-11	CARBON	22K	5%	1/4W	
R611	1-249-409-11	CARBON	220	5%	1/4W	
R612	1-249-409-11	CARBON	220	5%	1/4W	
⚠R621	1-212-851-00	FUSIBLE	5.6	5%	1/4W	F
⚠R622	1-212-851-00	FUSIBLE	5.6	5%	1/4W	F
R623	1-249-432-11	CARBON	18K	5%	1/4W	
R624	1-249-432-11	CARBON	18K	5%	1/4W	
R625	1-249-429-11	CARBON	10K	5%	1/4W	
R651	1-247-856-00	CARBON	11K	5%	1/4W	
R652	1-247-856-00	CARBON	11K	5%	1/4W	
R653	1-249-441-11	CARBON	100K	5%	1/4W	
		<VARIABLE RESISTOR>				
RV301	1-238-598-11	RES, ADJ, CARBON 2.2K				
RV311	1-238-598-11	RES, ADJ, CARBON 2.2K				
RV341	1-238-551-11	RES, ADJ, CARBON 220K				
RV401	1-238-598-11	RES, ADJ, CARBON 2.2K				
RV411	1-238-598-11	RES, ADJ, CARBON 2.2K				
RV441	1-238-551-11	RES, ADJ, CARBON 220K				
RV651	1-238-599-11	RES, ADJ, CARBON 4.7K				
RV652	1-238-599-11	RES, ADJ, CARBON 4.7K				
		<TRANSFORMER>				
T621	1-423-980-11	TRANSFORMER, BIAS OSCILLATION				
**********						
*	A-4673-402-A	BD BOARD, COMPLETE				
		**********				
		<CAPACITOR>				
C101	1-126-607-11	ELECT CHIP	47uF	20%	4V	
C102	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

BD

Ref. No.	Part No.	Description			Remark
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C105	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C106	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C107	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C108	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C109	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C112	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C113	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C114	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C117	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C118	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C119	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C120	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C121	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C122	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C123	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C124	1-126-607-11	ELECT CHIP	47uF	20%	4V
C125	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C126	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C127	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C128	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C129	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C130	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C131	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C132	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C133	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C134	1-164-346-11	CERAMIC CHIP	1uF		16V
C135	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C136	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C137	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C139	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C140	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C141	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C142	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C145	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C146	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C147	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C148	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C149	1-164-346-11	CERAMIC CHIP	1uF		16V
C153	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C154	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
		<CONNECTOR>			
CNU101	1-770-014-11	CONNECTOR, FFC/FPC 16P			
CNU102	1-770-013-11	CONNECTOR, FFC/FPC 19P			
		<IC>			
IC101	8-752-069-56	IC CXA1782BQ			
IC102	8-759-291-06	IC BA6397FP			
IC103	8-752-372-94	IC CXD2507AQ			
IC104	8-759-185-29	IC PCM1710U-B			
		<TRANSISTOR>			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
Q102	8-729-424-08	TRANSISTOR UN2111			
Q103	8-729-421-22	TRANSISTOR UN2211			
		<RESISTOR>			
R102	1-216-001-00	METAL CHIP	10	5%	1/10W
R103	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R104	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R105	1-216-093-00	METAL CHIP	68K	5%	1/10W
R106	1-216-093-00	METAL CHIP	68K	5%	1/10W
R107	1-216-093-00	METAL CHIP	68K	5%	1/10W
R108	1-216-093-00	METAL CHIP	68K	5%	1/10W
R109	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-083-00	METAL CHIP	27K	5%	1/10W
R114	1-216-101-00	METAL CHIP	150K	5%	1/10W
R115	1-216-101-00	METAL CHIP	150K	5%	1/10W
R116	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R117	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R118	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R119	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R120	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R121	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R122	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R123	1-216-099-00	METAL CHIP	120K	5%	1/10W
R124	1-216-091-00	METAL CHIP	56K	5%	1/10W
R125	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R126	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R127	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R128	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R129	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R130	1-216-079-00	METAL CHIP	18K	5%	1/10W
R131	1-216-079-00	METAL CHIP	18K	5%	1/10W
R132	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R133	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R134	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R135	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R136	1-216-073-00	METAL CHIP	10K	5%	1/10W
R137	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R138	1-216-049-00	METAL GLAZE	1K	5%	1/10W

Ref. No.	Part No.	Description				Remark
R139	1-216-033-00	METAL CHIP	220	5%	1/10W	
R140	1-216-081-00	METAL CHIP	22K	5%	1/10W	
R141	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R142	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R143	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R144	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R145	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R146	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R147	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R148	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R149	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R150	1-216-037-00	METAL CHIP	330	5%	1/10W	
R151	1-216-037-00	METAL CHIP	330	5%	1/10W	
R152	1-216-037-00	METAL CHIP	330	5%	1/10W	
R153	1-216-082-00	METAL GLAZE	24K	5%	1/10W	
R154	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R156	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R157	1-216-069-00	METAL CHIP	6.8K	5%	1/10W	
R158	1-216-001-00	METAL CHIP	10	5%	1/10W	
		<VARIABLE RESISTOR>				
RV101	1-223-587-11	RES, ADJ, CARBON 22K				
RV102	1-223-587-11	RES, ADJ, CARBON 22K				
RV103	1-223-587-11	RES, ADJ, CARBON 22K				
		<SWITCH>				
S101	1-572-085-11	SWITCH, LEAF (LIMIT SW)				
		<VIBRATOR>				
X101	1-579-280-11	VIBRATOR, CRYSTAL (16.9344MHz)				
**********						
*	1-650-669-11	LEAF SWITCH BOARD				
		**********				
		<CONNECTOR>				
* CN1001	1-568-854-11	SOCKET, CONNECTOR 11P				
		<TRANSISTOR>				
Q1001	8-749-010-90	TRANSISTOR PHOTO REFLECTOR NJL5165KA-H				
Q1002	8-749-010-90	TRANSISTOR PHOTO REFLECTOR NJL5165KA-H				
		<RESISTOR>				
R1001	1-249-412-11	CARBON	390	5%	1/4W	
R1002	1-249-412-11	CARBON	390	5%	1/4W	
R1003	1-249-414-11	CARBON	560	5%	1/4W	
R1004	1-247-834-11	CARBON	1.3K	5%	1/4W	
R1005	1-247-818-11	CARBON	300	5%	1/4W	

Ref. No.	Part No.	Description				Remark
		<SWITCH>				
S1001	1-692-832-11	SWITCH, PUSH (1 KEY) (A PLAY)				
S1002	1-692-832-11	SWITCH, PUSH (1 KEY) (B PLAY)				
S1003	1-572-248-11	SWITCH, LEAF (A HALF)				
S1004	1-571-281-21	SWITCH, LEAF (A CrO2)				
S1005	1-571-281-21	SWITCH, LEAF (REC A)				
S1006	1-572-248-11	SWITCH, LEAF (B HALF)				
S1008	1-571-281-21	SWITCH, LEAF (B CrO2)				
S1009	1-571-281-21	SWITCH, LEAF (REC B)				
**********						
*	1-650-836-11	LOADING BOARD				
		**********				
		<CONNECTOR>				
* CN291	1-568-943-11	PIN, CONNECTOR 5P				
		<SWITCH>				
S291	1-572-086-11	SWITCH, LEAF (LOAD OUT)				
S292	1-572-086-11	SWITCH, LEAF (LOAD IN)				
**********						
*	A-4390-037-A	MAIN BOARD, COMPLETE (AEP)				
*	A-4390-038-A	MAIN BOARD, COMPLETE (G)				
*	A-4390-039-A	MAIN BOARD, COMPLETE (IT)				
*	A-4390-044-A	MAIN BOARD, COMPLETE (UK)				
*	A-4390-050-A	MAIN BOARD, COMPLETE (E3, HK)				
*	A-4390-057-A	MAIN BOARD, COMPLETE (MY, SP)				
*	A-4390-062-A	MAIN BOARD, COMPLETE (MX)				
*	A-4390-635-A	MAIN BOARD, COMPLETE (E2, AR)				
*	A-4390-636-A	MAIN BOARD, COMPLETE (EA)				
*	A-4390-638-A	MAIN BOARD, COMPLETE (AUS)				
		**********				
		<CAPACITOR>				
C101	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V	
C102	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
C103	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V	
C104	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V	
C105	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V	
C106	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	
C107	1-164-336-11	CERAMIC CHIP	0.33uF		25V	
C108	1-126-964-11	ELECT	10uF	20%	50V	
C109	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	
C110	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C111	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C112	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C113	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C121	1-162-306-11	CERAMIC	0.01uF	30%	16V	

MAIN

Ref. No.	Part No.	Description			Remark
C122	1-162-306-11	CERAMIC	0.01uF	30%	16V
C123	1-162-306-11	CERAMIC	0.01uF	30%	16V
C124	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C125	1-126-964-11	ELECT	10uF	20%	50V
C126	1-126-933-11	ELECT	100uF	20%	10V
C127	1-126-933-11	ELECT	100uF	20%	10V
C130	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C131	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C132	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C133	1-136-165-00	FILM	0.1uF	5%	50V
C135	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C136	1-104-656-11	ELECT	2200uF	20%	6.3V
C137	1-126-964-11	ELECT	10uF	20%	50V
C138	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C139	1-126-965-11	ELECT	22uF	20%	50V
C140	1-164-159-11	CERAMIC	0.1uF		50V
C141	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C144	1-164-159-11	CERAMIC	0.1uF		50V
C145	1-164-159-11	CERAMIC	0.1uF		50V
C147	1-126-964-11	ELECT	10uF	20%	50V
C148	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C149	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C150	1-126-964-11	ELECT	10uF	20%	50V
C151	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C152	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C153	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C154	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C155	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C156	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C157	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C158	1-126-964-11	ELECT	10uF	20%	50V
C159	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C161	1-164-159-11	CERAMIC	0.1uF		50V
C162	1-164-159-11	CERAMIC	0.1uF		50V
C163	1-164-159-11	CERAMIC	0.1uF		50V
C164	1-164-159-11	CERAMIC	0.1uF		50V
C171	1-126-964-11	ELECT	10uF	20%	50V
C172	1-109-889-11	ELECT	1uF	20%	50V
C173	1-109-889-11	ELECT	1uF	20%	50V
C174	1-126-964-11	ELECT	10uF	20%	50V
C175	1-164-159-11	CERAMIC	0.1uF		50V
C176	1-126-964-11	ELECT	10uF	20%	50V
C177	1-164-159-11	CERAMIC	0.1uF		50V
C178	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C179	1-164-159-11	CERAMIC	0.1uF		50V
C180	1-126-952-11	ELECT	1000uF	20%	16V
C181	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C201	1-162-290-31	CERAMIC	470PF	10%	50V
C202	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C203	1-162-290-31	CERAMIC	470PF	10%	50V
C204	1-164-159-11	CERAMIC	0.1uF		50V
C205	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C206	1-162-290-31	CERAMIC	470PF	10%	50V
C207	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C208	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C209	1-162-290-31	CERAMIC	470PF	10%	50V
C211	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C212	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C213	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C215	1-164-159-11	CERAMIC	0.1uF		50V
C216	1-164-159-11	CERAMIC	0.1uF		50V
C401	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C402	1-130-479-00	MYLAR	0.0047uF	5%	50V
C403	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C404	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C405	1-126-964-11	ELECT	10uF	20%	50V
C406	1-124-903-11	ELECT	1uF	20%	50V
C407	1-124-902-00	ELECT	0.47uF	20%	50V
C408	1-126-964-11	ELECT	10uF	20%	50V
C409	1-126-964-11	ELECT	10uF	20%	50V
C410	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C411	1-124-903-11	ELECT	1uF	20%	50V
C412	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C421	1-126-964-11	ELECT	10uF	20%	50V
C422	1-126-933-11	ELECT	100uF	20%	10V
C423	1-126-933-11	ELECT	100uF	20%	10V
C424	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C425	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C426	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C427	1-126-935-11	ELECT	470uF	20%	16V
C428	1-104-665-11	ELECT	100uF	20%	25V
C430	1-126-964-11	ELECT	10uF	20%	50V
C431	1-126-964-11	ELECT	10uF	20%	50V
C434	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C435	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C451	1-162-286-31	CERAMIC	220PF	10%	50V
C452	1-130-479-00	MYLAR	0.0047uF	5%	50V
C453	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C454	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C455	1-126-964-11	ELECT	10uF	20%	50V
C456	1-124-903-11	ELECT	1uF	20%	50V
C457	1-124-902-00	ELECT	0.47uF	20%	50V
C458	1-126-964-11	ELECT	10uF	20%	50V
C459	1-126-964-11	ELECT	10uF	20%	50V
C460	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C461	1-124-903-11	ELECT	1uF	20%	50V

Ref. No.	Part No.	Description				Remark
C462	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	
C701	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	
C702	1-126-964-11	ELECT	10uF	20%	50V	
C703	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	
C706	1-126-964-11	ELECT	10uF	20%	50V	
C707	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C708	1-162-282-31	CERAMIC	100PF	10%	50V	
C709	1-162-282-31	CERAMIC	100PF	10%	50V	
C738	1-164-159-11	CERAMIC	0.1uF		50V	
C739	1-164-159-11	CERAMIC	0.1uF		50V	
C751	1-163-001-11	CERAMIC CHIP	220PF	10%	50V	
C752	1-126-964-11	ELECT	10uF	20%	50V	
C753	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V	
C756	1-126-964-11	ELECT	10uF	20%	50V	
C908	1-164-159-11	CERAMIC	0.1uF		50V	(AEP, G, IT, UK)
C909	1-164-159-11	CERAMIC	0.1uF		50V	(AEP, G, IT, UK)
C958	1-164-159-11	CERAMIC	0.1uF		50V	(AEP, G, IT, UK)
C959	1-164-159-11	CERAMIC	0.1uF		50V	(AEP, G, IT, UK)
C971	1-126-923-11	ELECT	220uF	20%	10V	
C972	1-126-923-11	ELECT	220uF	20%	10V	
C973	1-164-159-11	CERAMIC	0.1uF		50V	
C974	1-126-933-11	ELECT	100uF	20%	10V	
C975	1-126-964-11	ELECT	10uF	20%	50V	
C1001	1-162-306-11	CERAMIC	0.01uF	30%	16V	
C1002	1-109-889-11	ELECT	1uF	20%	50V	
C1003	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	
C1005	1-109-889-11	ELECT	1uF	20%	50V	
C1055	1-109-889-11	ELECT	1uF	20%	50V	
C1209	1-126-964-11	ELECT	10uF	20%	50V	
		<CONNECTOR>				
CN101	1-770-167-11	CONNECTOR, FFC/FPC 19P				
CN103	1-774-289-11	PIN, CONNECTOR (PC BOARD) 15P				
* CN104	1-569-934-11	SOCKET, CONNECTOR 17P				
CN105	1-764-286-11	PIN, CONNECTOR (PC BOARD) 16P				
CN108	1-774-289-11	PIN, CONNECTOR (PC BOARD) 15P				
CN202	1-564-505-11	PLUG, CONNECTOR 2P				
CN401	1-569-937-11	SOCKET, CONNECTOR 21P				
CN402	1-569-928-11	SOCKET, CONNECTOR 11P				
		<DIODE>				
D102	8-719-987-63	DIODE 1N4148M				
D103	8-719-987-63	DIODE 1N4148M				
D104	8-719-010-29	DIODE UZ-4.3BSB				
D106	8-719-024-99	DIODE 11ES2-NTA2B				

Ref. No.	Part No.	Description	Remark
D107	8-719-987-63	DIODE 1N4148M	
D108	8-719-987-63	DIODE 1N4148M	
D109	8-719-024-99	DIODE 11ES2-NTA2B	
D110	8-719-987-63	DIODE 1N4148M	
D111	8-719-987-63	DIODE 1N4148M	
D112	8-719-016-74	DIODE 1SS352	
D113	8-719-016-74	DIODE 1SS352	
D120	8-719-987-63	DIODE 1N4148M	
D121	8-719-987-63	DIODE 1N4148M	
D162	8-719-016-74	DIODE 1SS352	
D163	8-719-016-74	DIODE 1SS352	
D402	8-719-987-63	DIODE 1N4148M	
D403	8-719-987-63	DIODE 1N4148M	
D404	8-719-987-63	DIODE 1N4148M	
D703	8-719-024-99	DIODE 11ES2-NTA2B	
D704	8-719-024-99	DIODE 11ES2-NTA2B	
D971	8-719-987-63	DIODE 1N4148M	
D1002	8-719-016-74	DIODE 1SS352	
D1003	8-719-016-74	DIODE 1SS352	
D1053	8-719-016-74	DIODE 1SS352	
		<IC>	
IC101	8-759-392-47	IC TMP87CP64YF-6396	
IC102	8-759-925-74	IC SN74HC04ANS	
IC103	8-759-165-82	IC PST600E-T	
IC104	8-759-291-98	IC M62423FP	
IC105	8-759-281-42	IC TC9210P	
IC106	8-759-822-09	IC LB1641	
IC401	8-759-289-38	IC HA12195NT	
IC402	8-759-822-09	IC LB1641	
IC701	8-759-009-06	IC MC14052BF	
IC971	8-759-111-68	IC uPC1237HA	
		<JACK>	
J102	1-750-032-11	JACK (DIA. 3.5)(PHONES)	
J701	1-573-028-31	JACK, PIN 4P (MD IN/OUT)	
		<JUMPER RESISTOR>	
JR101	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR103	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR104	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR105	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR106	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR107	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR112	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR113	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR114	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR115	1-216-295-00	CONDUCTOR, CHIP	(2012)

MAIN

Ref. No.	Part No.	Description	Remark
JR116	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR117	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR118	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR119	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR120	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR121	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR122	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR127	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR132	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR135	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR145	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR148	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR149	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR150	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR151	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR152	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR172	1-216-296-00	CONDUCTOR, CHIP (3216)	
		<COIL>	
L101	1-410-509-11	INDUCTOR 10uH	
L401	1-410-482-31	INDUCTOR 100uH	
L701	1-410-521-11	INDUCTOR 100uH	
L901	1-420-872-00	COIL, AIR-CORE (AEP, G, IT, UK)	
L951	1-420-872-00	COIL, AIR-CORE (AEP, G, IT, UK)	
		<TRANSISTOR>	
Q101	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q102	8-729-422-57	TRANSISTOR BN1A4M	
Q103	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q104	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q105	8-729-118-01	TRANSISTOR 2SB1116	
Q106	8-729-900-80	TRANSISTOR BA1A4M	
Q401	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q403	8-729-900-65	TRANSISTOR BN1L4M	
Q404	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q405	8-729-801-93	TRANSISTOR 2SD1387	
Q408	8-729-422-57	TRANSISTOR BN1A4M	
Q409	8-729-900-80	TRANSISTOR BA1A4M	
Q410	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q411	8-729-900-80	TRANSISTOR BA1A4M	
Q412	8-729-900-65	TRANSISTOR BN1L4M	
Q413	8-729-900-65	TRANSISTOR BN1L4M	
Q414	8-729-900-65	TRANSISTOR BN1L4M	
Q451	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q701	8-729-900-80	TRANSISTOR BA1A4M	
Q702	8-729-900-80	TRANSISTOR BA1A4M	
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q704	8-729-620-05	TRANSISTOR 2SC2603-EF	
Q705	8-729-422-57	TRANSISTOR BN1A4M	
Q972	8-729-900-89	TRANSISTOR BA1L4M	
Q1001	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q1002	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q1005	8-729-141-30	TRANSISTOR 2SC3623A-LK	
Q1051	8-729-202-67	TRANSISTOR 2SK246-GR3	
Q1055	8-729-141-30	TRANSISTOR 2SC3623A-LK	
		<RESISTOR>	
R101	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R102	1-216-295-00	CONDUCTOR, CHIP (2012)	
R103	1-249-417-11	CARBON 1K 5% 1/4W	
R104	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R121	1-249-417-11	CARBON 1K 5% 1/4W	
R122	1-249-417-11	CARBON 1K 5% 1/4W	
R123	1-249-417-11	CARBON 1K 5% 1/4W	
R124	1-247-807-31	CARBON 100 5% 1/4W	
R125	1-249-417-11	CARBON 1K 5% 1/4W	
R126	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R127	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R128	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R129	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R131	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R132	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R133	1-249-413-11	CARBON 470 5% 1/4W	
R134	1-249-413-11	CARBON 470 5% 1/4W	
R136	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R137	1-249-421-11	CARBON 2.2K 5% 1/4W	
R138	1-249-409-11	CARBON 220 5% 1/4W	
R139	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R140	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R141	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R142	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R143	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R144	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R145	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R146	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R147	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R148	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R149	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R150	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R151	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R152	1-216-295-00	CONDUCTOR, CHIP (2012)	
R153	1-249-417-11	CARBON 1K 5% 1/4W	
R154	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R159	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R161	1-249-385-11	CARBON 2.2 5% 1/6W	
R162	1-249-385-11	CARBON 2.2 5% 1/6W	

Ref. No.	Part No.	Description			Remark
R171	1-216-073-00	METAL CHIP	10K	5%	1/10W (AEP, G, IT, UK, EA)
R171	1-216-077-00	METAL CHIP	15K	5%	1/10W (E3, MY, SP, HK, AUS)
R171	1-216-081-00	METAL CHIP	22K	5%	1/10W (E2, MX, AR)
R172	1-249-433-11	CARBON	22K	5%	1/4W (AEP, UK)
R172	1-249-429-11	CARBON	10K	5%	1/4W (G, E2, MX, AR, AUS)
R172	1-249-431-11	CARBON	15K	5%	1/4W (IT)
R172	1-247-843-11	CARBON	3.3K	5%	1/4W (E3, MY, SP, EA, HK)
R173	1-216-073-00	METAL CHIP	10K	5%	1/10W
R174	1-247-807-31	CARBON	100	5%	1/4W
R175	1-247-807-31	CARBON	100	5%	1/4W
R176	1-247-807-31	CARBON	100	5%	1/4W
R178	1-247-807-31	CARBON	100	5%	1/4W
R179	1-247-807-31	CARBON	100	5%	1/4W
R180	1-216-025-00	METAL GLAZE	100	5%	1/10W
R181	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R182	1-249-441-11	CARBON	100K	5%	1/4W
R183	1-249-425-11	CARBON	4.7K	5%	1/4W
R185	1-249-425-11	CARBON	4.7K	5%	1/4W
R186	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R201	1-247-807-31	CARBON	100	5%	1/4W
R202	1-247-807-31	CARBON	100	5%	1/4W
R203	1-247-807-31	CARBON	100	5%	1/4W
R204	1-247-807-31	CARBON	100	5%	1/4W
R205	1-247-807-31	CARBON	100	5%	1/4W
R206	1-247-807-31	CARBON	100	5%	1/4W
R207	1-247-807-31	CARBON	100	5%	1/4W
R210	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R212	1-247-807-31	CARBON	100	5%	1/4W
R215	1-247-807-31	CARBON	100	5%	1/4W
R216	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R217	1-249-417-11	CARBON	1K	5%	1/4W
R218	1-247-807-31	CARBON	100	5%	1/4W
R219	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R220	1-247-807-31	CARBON	100	5%	1/4W
R401	1-216-075-00	METAL CHIP	12K	5%	1/10W
R402	1-216-077-00	METAL CHIP	15K	5%	1/10W
R403	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R404	1-249-421-11	CARBON	2.2K	5%	1/4W
R405	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R406	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R407	1-216-073-00	METAL CHIP	10K	5%	1/10W
R408	1-216-049-00	METAL GLAZE	1K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R409	1-216-081-00	METAL CHIP	22K	5%	1/10W
R420	1-215-451-00	METAL	18K	1%	1/4W
R421	1-249-429-11	CARBON	10K	5%	1/4W
R422	1-249-429-11	CARBON	10K	5%	1/4W
R423	1-249-429-11	CARBON	10K	5%	1/4W
R424	1-249-429-11	CARBON	10K	5%	1/4W
R425	1-249-429-11	CARBON	10K	5%	1/4W
R426	1-249-429-11	CARBON	10K	5%	1/4W
R427	1-249-429-11	CARBON	10K	5%	1/4W
R428	1-249-429-11	CARBON	10K	5%	1/4W
R429	1-249-429-11	CARBON	10K	5%	1/4W
R430	1-216-084-00	METAL CHIP	30K	5%	1/10W
R431	1-216-100-00	METAL GLAZE	130K	5%	1/10W
R432	1-249-429-11	CARBON	10K	5%	1/4W
R433	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R434	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R435	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R436	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R437	1-249-436-11	CARBON	39K	5%	1/4W
R438	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R439	1-249-437-11	CARBON	47K	5%	1/4W
R440	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R442	1-216-041-00	METAL CHIP	470	5%	1/10W
R447	1-249-419-11	CARBON	1.5K	5%	1/4W
R448	1-249-433-11	CARBON	22K	5%	1/4W
R449	1-249-435-11	CARBON	33K	5%	1/4W
R450	1-249-433-11	CARBON	22K	5%	1/4W
R451	1-216-075-00	METAL CHIP	12K	5%	1/10W
R452	1-216-077-00	METAL CHIP	15K	5%	1/10W
R453	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R454	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R455	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R456	1-249-417-11	CARBON	1K	5%	1/4W
R457	1-216-073-00	METAL CHIP	10K	5%	1/10W
R458	1-249-417-11	CARBON	1K	5%	1/4W
R459	1-249-433-11	CARBON	22K	5%	1/4W
R460	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R461	1-216-025-00	METAL GLAZE	100	5%	1/10W
R462	1-216-025-00	METAL GLAZE	100	5%	1/10W
R463	1-216-025-00	METAL GLAZE	100	5%	1/10W
R464	1-247-807-31	CARBON	100	5%	1/4W
R465	1-216-025-00	METAL GLAZE	100	5%	1/10W
R466	1-216-025-00	METAL GLAZE	100	5%	1/10W
R467	1-247-807-31	CARBON	100	5%	1/4W
R470	1-249-433-11	CARBON	22K	5%	1/4W
R480	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R702	1-249-421-11	CARBON	2.2K	5%	1/4W
R704	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R705	1-216-101-00	METAL CHIP	150K	5%	1/10W

MAIN PANEL

Ref. No.	Part No.	Description			Remark
R706	1-249-417-11	CARBON	1K	5%	1/4W
R707	1-249-417-11	CARBON	1K	5%	1/4W
R708	1-249-427-11	CARBON	6.8K	5%	1/4W
R709	1-249-429-11	CARBON	10K	5%	1/4W
R710	1-249-441-11	CARBON	100K	5%	1/4W
R731	1-249-429-11	CARBON	10K	5%	1/4W
R732	1-249-429-11	CARBON	10K	5%	1/4W
R733	1-216-073-00	METAL CHIP	10K	5%	1/10W
R734	1-249-425-11	CARBON	4.7K	5%	1/4W
R735	1-249-425-11	CARBON	4.7K	5%	1/4W
R738	1-216-095-00	METAL CHIP	82K	5%	1/10W
R739	1-249-439-11	CARBON	68K	5%	1/4W
R752	1-249-421-11	CARBON	2.2K	5%	1/4W
R754	1-249-417-11	CARBON	1K	5%	1/4W
R755	1-216-101-00	METAL CHIP	150K	5%	1/10W
R756	1-249-417-11	CARBON	1K	5%	1/4W
R757	1-249-417-11	CARBON	1K	5%	1/4W
R758	1-249-427-11	CARBON	6.8K	5%	1/4W
R759	1-249-429-11	CARBON	10K	5%	1/4W
R760	1-249-441-11	CARBON	100K	5%	1/4W
R912	1-249-389-11	CARBON	4.7	5%	1/4W (AEP, G, IT, UK)
R913	1-249-389-11	CARBON	4.7	5%	1/4W (AEP, G, IT, UK)
R914	1-249-393-11	CARBON	10	5%	1/4W (AEP, G, IT, UK)
R915	1-249-417-11	CARBON	1K	5%	1/4W
R962	1-249-389-11	CARBON	4.7	5%	1/4W (AEP, G, IT, UK)
R963	1-249-389-11	CARBON	4.7	5%	1/4W (AEP, G, IT, UK)
R964	1-249-393-11	CARBON	10	5%	1/4W (AEP, G, IT, UK)
R965	1-249-417-11	CARBON	1K	5%	1/4W
R972	1-249-437-11	CARBON	47K	5%	1/4W
R974	1-249-441-11	CARBON	100K	5%	1/4W
R975	1-216-085-00	METAL CHIP	33K	5%	1/10W
R976	1-249-397-11	CARBON	22	5%	1/4W
R977	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R978	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
⚠R979	1-215-889-00	METAL OXIDE	330	5%	2W F
R1002	1-249-425-11	CARBON	4.7K	5%	1/4W
R1003	1-216-295-00	CONDUCTOR, CHIP	(2012)		
R1006	1-249-425-11	CARBON	4.7K	5%	1/4W
R1009	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R1056	1-249-425-11	CARBON	4.7K	5%	1/4W
R1059	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R1201	1-249-417-11	CARBON	1K	5%	1/4W
R1202	1-216-081-00	METAL CHIP	22K	5%	1/10W
R1204	1-216-081-00	METAL CHIP	22K	5%	1/10W
R1205	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R1207	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R1251	1-249-417-11	CARBON	1K	5%	1/4W
		<VARIABLE RESISTOR>			
RV401	1-241-785-11	RES, ADJ, CARBON 10K			
RV451	1-241-785-11	RES, ADJ, CARBON 10K			
		<RELAY>			
RY901	1-515-921-11	RELAY (12V)			
		<TERMINAL>			
TB901	1-694-091-11	TERMINAL BOARD (SPEAKER)			
TB902	1-537-897-11	TERMINAL BOARD,PUSH (ANTENNA) 2P (WOOFER)			
		<VIBRATOR>			
X101	1-579-175-11	VIBRATOR, CERAMIC (10MHz)			
X102	1-567-098-41	VIBRATOR, CRYSTAL (32kHz)			
**********					
*	A-4390-032-A	PANEL BOARD, COMPLETE (AEP, G, IT)			
*	A-4390-040-A	PANEL BOARD, COMPLETE (UK)			
*	A-4390-046-A	PANEL BOARD, COMPLETE (E3, EA, HK)			
*	A-4390-052-A	PANEL BOARD, COMPLETE (MY, SP)			
*	A-4390-053-A	PANEL BOARD, COMPLETE (MX)			
*	A-4390-634-A	PANEL BOARD, COMPLETE (E2, AR, AUS)			
		**********			
*	4-977-399-11	HOUSE, LAMP			
*	4-977-400-11	HOLDER (FL)			
	7-682-548-04	SCREW +BVTT 3X8 (S)			
		<CAPACITOR>			
C501	1-124-584-00	ELECT	100uF	20%	10V
C502	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C503	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C504	1-136-165-00	FILM	0.1uF	5%	50V
C505	1-136-165-00	FILM	0.1uF	5%	50V
C506	1-126-948-11	ELECT	100uF	20%	35V
C507	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C508	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C509	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C510	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C511	1-126-157-11	ELECT	10uF	20%	16V
C512	1-163-001-11	CERAMIC CHIP	220PF	10%	50V (E2, E3, MY, SP, EA, HK, AR)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
C513	1-163-001-11	CERAMIC CHIP 220PF 10% 50V (E2, E3, MY, SP, EA, HK, AR)	
C514	1-163-001-11	CERAMIC CHIP 220PF 10% 50V (E2, E3, MY, SP, EA, HK, AR)	
C515	1-163-001-11	CERAMIC CHIP 220PF 10% 50V (E2, E3, MY, SP, EA, HK, AR)	
C516	1-163-001-11	CERAMIC CHIP 220PF 10% 50V (E2, E3, MY, SP, EA, HK, AR)	
C517	1-163-001-11	CERAMIC CHIP 220PF 10% 50V (E2, E3, MY, SP, EA, HK, AR)	
C518	1-163-001-11	CERAMIC CHIP 220PF 10% 50V (E2, E3, MY, SP, EA, HK, AR)	
		<CONNECTOR>	
CN501	1-764-298-11	HOUSING,CONNECTOR(PC BOARD)16P	
		<DIODE>	
D501	8-719-987-63	DIODE 1N4148M	
D502	8-719-024-99	DIODE 11ES2-NTA2B	
D503	8-719-014-73	DIODE UZP-5.6BC-TP	
D504	8-719-032-98	LED SEL5820A (B)	
D505	8-719-032-98	LED SEL5820A (A)	
D506	8-719-311-61	LED SEL2810D-D (DECK SELECT)	
D507	8-719-311-61	LED SEL2810D-D (DECK SELECT)	
D508	8-719-032-98	LED SEL5820A (◀)	
D509	8-719-032-98	LED SEL5820A (▶▶)	
D510	8-719-032-98	LED SEL5820A (◀◀)	
D511	8-719-032-98	LED SEL5820A (■)	
D512	8-719-032-98	LED SEL5820A (▶)	
D513	8-719-046-43	LED SEL5421E-TP15 (TAPE)	
D514	8-719-046-43	LED SEL5421E-TP15 (TUNER BAND)	
D515	8-719-046-43	LED SEL5421E-TP15 (CD)	
D516	8-719-812-44	LED TLO124 (ENTER/NEXT)	
D517	8-719-032-98	LED SEL5820A (❚❚)	
D518	8-719-311-61	LED SEL2810D-D (TUNER MEMORY)	
D519	8-719-311-61	LED SEL2810D-D (TUNER MEMORY)	
D520	8-719-311-61	LED SEL2810D-D (STEREO/MONO)	
D521	8-719-311-61	LED SEL2810D-D (STEREO/MONO)	
D522	8-719-311-61	LED SEL2810D-D (TUNING MODE)	
D523	8-719-311-61	LED SEL2810D-D (TUNING MODE)	
D524	8-719-812-44	LED TLO124 (LOW)	
D525	8-719-812-44	LED TLO124 (HIGH)	
D526	8-719-812-44	LED TLO124 (MID)	
		<FLUORESCENT INDICATOR>	
FL501	1-517-473-11	INDICATOR TUBE, FLUORESCENT	

Ref. No.	Part No.	Description			Remark
		<IC>			
IC501	8-752-868-14	IC CXP82612-016Q			
IC502	8-741-780-51	IC SBX1780-51			
		<TRANSISTOR>			
Q501	8-729-421-22	TRANSISTOR UN2211			
Q502	8-729-424-08	TRANSISTOR UN2111			
Q503	8-729-424-08	TRANSISTOR UN2111			
Q507	8-729-424-08	TRANSISTOR UN2111			
Q509	8-729-424-08	TRANSISTOR UN2111			
Q510	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q511	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q512	8-729-119-76	TRANSISTOR 2SA1175-HFE			
		<RESISTOR>			
R501	1-216-073-00	METAL CHIP	10K	5%	1/10W
R502	1-216-073-00	METAL CHIP	10K	5%	1/10W
R503	1-216-073-00	METAL CHIP	10K	5%	1/10W
R504	1-216-073-00	METAL CHIP	10K	5%	1/10W
R505	1-216-073-00	METAL CHIP	10K	5%	1/10W
R506	1-216-073-00	METAL CHIP	10K	5%	1/10W
R507	1-216-073-00	METAL CHIP	10K	5%	1/10W
R508	1-216-073-00	METAL CHIP	10K	5%	1/10W
R509	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R510	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R511	1-249-407-11	CARBON	150	5%	1/4W
R512	1-216-035-00	METAL CHIP	270	5%	1/10W
R513	1-216-031-00	METAL CHIP	180	5%	1/10W
R514	1-216-033-00	METAL CHIP	220	5%	1/10W
R515	1-216-037-00	METAL CHIP	330	5%	1/10W
R516	1-216-041-00	METAL CHIP	470	5%	1/10W
R517	1-216-043-00	METAL GLAZE	560	5%	1/10W
R518	1-216-047-00	METAL GLAZE	820	5%	1/10W
R519	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R520	1-249-420-11	CARBON	1.8K	5%	1/4W
R521	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R522	1-216-029-00	METAL CHIP	150	5%	1/10W
R523	1-216-035-00	METAL CHIP	270	5%	1/10W
R524	1-216-031-00	METAL CHIP	180	5%	1/10W
R525	1-216-033-00	METAL CHIP	220	5%	1/10W
R526	1-216-037-00	METAL CHIP	330	5%	1/10W
R527	1-216-041-00	METAL CHIP	470	5%	1/10W
R528	1-216-043-00	METAL GLAZE	560	5%	1/10W
R529	1-216-047-00	METAL GLAZE	820	5%	1/10W
R530	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R531	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R532	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R533	1-216-053-00	METAL CHIP	1.5K	5%	1/10W

PANEL **PS**

Ref. No.	Part No.	Description			Remark
R534	1-216-029-00	METAL CHIP	150	5%	1/10W
R535	1-216-035-00	METAL CHIP	270	5%	1/10W
R536	1-216-031-00	METAL CHIP	180	5%	1/10W
R537	1-216-033-00	METAL CHIP	220	5%	1/10W
R538	1-216-029-00	METAL CHIP	150	5%	1/10W
R539	1-216-029-00	METAL CHIP	150	5%	1/10W
R540	1-216-017-00	METAL GLAZE	47	5%	1/10W
R542	1-216-029-00	METAL CHIP	150	5%	1/10W
R543	1-216-017-00	METAL GLAZE	47	5%	1/10W
R545	1-216-017-00	METAL GLAZE	47	5%	1/10W
R547	1-216-029-00	METAL CHIP	150	5%	1/10W
R548	1-216-029-00	METAL CHIP	150	5%	1/10W
R549	1-216-029-00	METAL CHIP	150	5%	1/10W
R550	1-216-033-00	METAL CHIP	220	5%	1/10W
R551	1-216-029-00	METAL CHIP	150	5%	1/10W
R552	1-216-017-00	METAL GLAZE	47	5%	1/10W
R554	1-216-017-00	METAL GLAZE	47	5%	1/10W
R556	1-216-017-00	METAL GLAZE	47	5%	1/10W
R558	1-216-033-00	METAL CHIP	220	5%	1/10W
R559	1-216-033-00	METAL CHIP	220	5%	1/10W
R560	1-216-033-00	METAL CHIP	220	5%	1/10W
R561	1-216-073-00	METAL CHIP	10K	5%	1/10W
R562	1-216-073-00	METAL CHIP	10K	5%	1/10W
R563	1-216-073-00	METAL CHIP	10K	5%	1/10W
R564	1-216-073-00	METAL CHIP	10K	5%	1/10W
R565	1-216-073-00	METAL CHIP	10K	5%	1/10W
R567	1-216-073-00	METAL CHIP	10K	5%	1/10W
R570	1-247-807-31	CARBON	100	5%	1/4W
R571	1-247-807-31	CARBON	100	5%	1/4W
R572	1-247-807-31	CARBON	100	5%	1/4W
R573	1-247-807-31	CARBON	100	5%	1/4W
R574	1-247-807-31	CARBON	100	5%	1/4W
R575	1-247-807-31	CARBON	100	5%	1/4W
R576	1-249-421-11	CARBON	2.2K	5%	1/4W
R577	1-249-409-11	CARBON	220	5%	1/4W
R578	1-249-409-11	CARBON	220	5%	1/4W
R579	1-216-097-00	METAL GLAZE	100K	5%	1/10W

<SWITCH>

S501	1-554-303-21	SWITCH, TACTILE (TAPE)
S502	1-554-303-21	SWITCH, TACTILE (TUNER/BAND)
S503	1-554-303-21	SWITCH, TACTILE (CD)
S504	1-554-303-21	SWITCH, TACTILE (ENTER/NEXT)
S505	1-554-303-21	SWITCH, TACTILE (⏏OPEN/CLOSE CD)
S506	1-554-303-21	SWITCH, TACTILE (REPEAT)
S507	1-554-303-21	SWITCH, TACTILE (HI-SPEED DUBBING)
S508	1-554-303-21	SWITCH, TACTILE (DIRECTION MODE)
S509	1-554-303-21	SWITCH, TACTILE (DOLBY NR)
S510	1-554-303-21	SWITCH, TACTILE (CD SYNCHRO)
S511	1-554-303-21	SWITCH, TACTILE (PLAY MODE)
S512	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER ON/STANDBY)
S513	1-554-303-21	SWITCH, TACTILE (FUNCTION)
S514	1-554-303-21	SWITCH, TACTILE (VOLUME –)
S515	1-554-303-21	SWITCH, TACTILE (VOLUME +)
S516	1-554-303-21	SWITCH, TACTILE (DECK SELECT A B)
S517	1-554-303-21	SWITCH, TACTILE (REC ● (DECK B))
S518	1-554-303-21	SWITCH, TACTILE (❚❚ (CD/DECK B))
S519	1-554-303-21	SWITCH, TACTILE (TUNER MEMORY ■)
S520	1-554-303-21	SWITCH, TACTILE (►►)
S521	1-554-303-21	SWITCH, TACTILE (STEREO/MONO ►)
S522	1-554-303-21	SWITCH, TACTILE (◄◄)
S523	1-554-303-21	SWITCH, TACTILE (TUNING MODE ◄)
S524	1-554-303-21	SWITCH, TACTILE (DISPLAY)
S525	1-554-303-21	SWITCH, TACTILE (SLEEP)
S526	1-572-184-11	SWITCH, KEYBOARD (TIMER SET)
S527	1-572-184-11	SWITCH, KEYBOARD (CLOCK SET)
S528	1-554-303-21	SWITCH, TACTILE (TIMER SELECT)
S529	1-554-303-21	SWITCH, TACTILE (WOOFER LEVEL)
S530	1-473-480-11	ENCODER, ROTARY (MULTI JOG STATION)

<VIBRATOR>

X501	1-567-819-11	VIBRATOR, CERAMIC (4MHz)

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*	A-4390-034-A	PS BOARD, COMPLETE (AEP, G, IT)
*	A-4390-042-A	PS BOARD, COMPLETE (UK)
*	A-4390-048-A	PS BOARD, COMPLETE (E2, E3, EA, HK, AR, AUS)
*	A-4390-060-A	PS BOARD, COMPLETE (MX)
*	A-4390-055-A	PS BOARD, COMPLETE (MY, SP)

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<CAPACITOR>

C801	1-136-177-00	FILM	1uF	5%	50V
C802	1-136-177-00	FILM	1uF	5%	50V
C803	1-128-549-11	ELECT	3300uF	20%	35V
C804	1-128-549-11	ELECT	3300uF	20%	35V
C805	1-126-969-11	ELECT	220uF	20%	50V
C806	1-126-968-11	ELECT	100uF	20%	50V
C807	1-126-948-11	ELECT	100uF	20%	35V
C808	1-126-947-11	ELECT	47uF	20%	35V
C811	1-126-935-11	ELECT	470uF	20%	16V
C812	1-126-925-11	ELECT	470uF	20%	10V
C813	1-126-967-11	ELECT	47uF	20%	10V
C814	1-126-933-11	ELECT	100uF	20%	16V
C815	1-126-967-11	ELECT	47uF	20%	10V
C816	1-126-933-11	ELECT	100uF	20%	10V
C817	1-126-967-11	ELECT	47uF	20%	10V
C818	1-126-933-11	ELECT	100uF	20%	10V

Ref. No.	Part No.	Description				Remark
C819	1-126-967-11	ELECT	47uF	20%	10V	
C831	1-126-936-11	ELECT	3300uF	20%	16V	
C843	1-164-159-11	CERAMIC	0.1uF		50V	
C844	1-164-159-11	CERAMIC	0.1uF		50V	
C845	1-164-159-11	CERAMIC	0.1uF		50V	
C848	1-164-159-11	CERAMIC	0.1uF		50V	
C849	1-164-159-11	CERAMIC	0.1uF		50V	
C850	1-164-159-11	CERAMIC	0.1uF		50V	
C939	1-126-964-11	ELECT	10uF	20%	50V	
C986	1-126-964-11	ELECT	10uF	20%	50V	
		<CONNECTOR>				
CN801	1-691-766-11	PLUG (MICRO CONNECTOR) 4P				
CN803	1-564-524-11	PLUG, CONNECTOR 9P				
CN804	1-750-749-11	CONNECTOR, FFC/FPC 17P				
CN805	1-564-505-11	PLUG, CONNECTOR 2P				
		<DIODE>				
D801	8-719-302-38	DIODE RBV-602-01				
D802	8-719-024-99	DIODE 11ES2-NTA2B				
D803	8-719-024-99	DIODE 11ES2-NTA2B				
D804	8-719-011-08	DIODE UZ-27BSC				
D805	8-719-933-50	DIODE HZS7C2L				
D807	8-719-109-98	DIODE RD6.8ES-B3				
D808	8-719-933-54	DIODE HZS9A2L				
D809	8-719-987-63	DIODE 1N4148M				
D810	8-719-987-63	DIODE 1N4148M				
D811	8-719-024-99	DIODE 11ES2-NTA2B				
D812	8-719-024-99	DIODE 11ES2-NTA2B				
D813	8-719-058-67	DIODE FMM-21S				
D902	8-719-987-63	DIODE 1N4148M				
D903	8-719-016-74	DIODE 1SS352				
D904	8-719-016-74	DIODE 1SS352				
		<IC>				
IC802	8-759-604-86	IC M5F7807L				
		<COIL>				
L902	1-420-872-00	COIL, AIR-CORE				
		<TRANSISTOR>				
Q801	8-729-018-59	TRANSISTOR 2SB1375 (LB-SONY)				
Q802	8-729-018-60	TRANSISTOR 2SD2012-LC				
Q805	8-729-209-60	TRANSISTOR 2SB1375				
Q806	8-729-620-05	TRANSISTOR 2SC2603-EF				
Q807	8-729-216-22	TRANSISTOR 2SA1162-G				
Q808	8-729-216-22	TRANSISTOR 2SA1162-G				
Q903	8-729-421-19	TRANSISTOR UN2213				
Q904	8-729-421-19	TRANSISTOR UN2213				

Ref. No.	Part No.	Description				Remark
		<RESISTOR>				
R803	1-249-417-11	CARBON	1K	5%	1/4W	
R804	1-249-417-11	CARBON	1K	5%	1/4W	
R805	1-249-415-11	CARBON	680	5%	1/4W	
R807	1-249-415-11	CARBON	680	5%	1/4W	
⚠R808	1-213-072-00	FUSIBLE	33	5%	1W	F
R809	1-249-419-11	CARBON	1.5K	5%	1/4W	
R810	1-249-421-11	CARBON	2.2K	5%	1/4W	
⚠R811	1-217-642-11	FUSIBLE	6.8	5%	1/4W	F
⚠R812	1-217-637-00	FUSIBLE	1	5%	1/4W	F
⚠R813	1-212-938-00	FUSIBLE	1.5	5%	1/2W	F
⚠R816	1-212-861-11	FUSIBLE	15	5%	1/4W	F
R942	1-249-429-11	CARBON	10K	5%	1/4W	
R943	1-249-435-11	CARBON	33K	5%	1/4W	
R944	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R987	1-249-389-11	CARBON	4.7	5%	1/4W	F
**********						
*	A-4303-532-A	TCB BOARD, COMPLETE (AEP, UK)				
*	A-4303-533-A	TCB BOARD, COMPLETE (G, IT)				
*	A-4303-534-A	TCB BOARD, COMPLETE (E3, EA, MY, SP, HK)				
*	A-4303-535-A	TCB BOARD, COMPLETE (E2, MX, AR, AUS)				
		**********				
		<CAPACITOR>				
C1	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V	
C2	1-126-967-11	ELECT	47uF	20%	16V	
C3	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C4	1-163-099-00	CERAMIC CHIP	18PF	5%	50V	(AEP, G, IT, UK)
C5	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C6	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C7	1-101-004-00	CERAMIC	0.01uF		50V	(EXCEPT AEP, G, IT, UK)
C8	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C9	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C10	1-163-031-11	CERAMIC CHIP	0.01uF		50V	
C11	1-163-038-00	CERAMIC CHIP	0.1uF		25V	(E3, EA, MY, SP, HK)
C11	1-216-295-00	METAL CHIP	0	5%	1/10W	(G, IT, E2, MX, AR, AUS)
C14	1-163-038-00	CERAMIC CHIP	0.1uF		25V	(E3, EA, MY, SP, HK)
C15	1-136-162-00	CERAMIC	0.056uF		50V	(E3, EA, MY, SP, HK)
C16	1-163-038-00	CERAMIC CHIP	0.1uF		25V	
C17	1-163-031-11	CERAMIC CHIP	0.01uF		50V	(E3, EA, MY, SP, HK)
C18	1-163-088-00	CERAMIC CHIP	5PF		50V	(E3, EA, MY, SP, HK)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

TCB

Ref. No.	Part No.	Description			Remark
C19	1-163-249-11	CERAMIC CHIP	82PF	5%	50V (AEP,UK)
C21	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C22	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C23	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C24	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C26	1-126-967-11	ELECT	47uF	20%	16V
C28	1-126-967-11	ELECT	47uF	20%	16V
C29	1-162-306-11	CERAMIC	0.01uF	30%	16V
C30	1-124-925-11	ELECT	2.2uF	20%	100V
C31	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C32	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C33	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C34	1-163-091-00	CERAMIC CHIP	8PF		50V (EXCEPT AEP, UK)
C34	1-163-229-11	CERAMIC CHIP	12PF	5%	50V (AEP, UK)
C35	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C36	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C37	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C38	1-162-211-31	CERAMIC	33PF	5%	50V (E3, EA, MY, SP, HK)
C39	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C40	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C41	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C42	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C43	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C44	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C45	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C46	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C47	1-126-967-11	ELECT	47uF	20%	16V
C48	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C49	1-124-902-00	ELECT	0.47uF	20%	50V
C50	1-124-903-11	ELECT	1.0uF	20%	50V
C51	1-124-903-11	ELECT	1.0uF	20%	50V
C52	1-126-963-11	ELECT	4.7uF	20%	50V (AEP, G, IT, UK)
C52	1-126-964-11	ELECT	10uF	20%	50V (EXCEPT AEP, G, IT, UK)
C53	1-126-964-11	ELECT	10uF	20%	50V
C54	1-104-396-11	ELECT	10uF	20%	50V
C55	1-104-396-11	ELECT	10uF	20%	50V
C56	1-104-396-11	ELECT	10uF	20%	50V
C57	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C58	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C59	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V (AEP, G, IT, UK)
C59	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V (EXCEPT AEP, G, IT, UK)
C60	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V (AEP, G, IT, UK)
C60	1-163-989-11	CERAMIC CHIP	0.033uF	25V	(EXCEPT AEP, G, IT, UK)
C61	1-126-301-11	ELECT	1uF	20%	50V
C62	1-163-141-00	CERAMIC CHIP	0.001uF	5%	50V
C63	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C64	1-126-967-11	ELECT	47uF	20%	16V
C65	1-163-031-11	CERAMIC CHIP	0.01uF	50V	
C66	1-126-162-11	ELECT	3.3uF	20%	50V
C67	1-126-933-11	ELECT	100uF	20%	10V
C68	1-162-306-11	CERAMIC	0.01uF	30%	16V
C71	1-162-306-11	CERAMIC	0.01uF	30%	16V
C72	1-126-967-11	ELECT	47uF	20%	16V
C120	1-163-105-00	CERAMIC CHIP	33PF	5%	50V (AEP, G, IT, UK)
		<FILTER>			
CF1	1-567-389-11	FILTER, CERAMIC			
CF2	1-760-393-11	FILTER, CERAMIC (AEP, G, IT, UK)			
CF3	1-567-389-11	FILTER, CERAMIC (EXCEPT AEP, G, IT, UK)			
CF3	1-760-393-11	FILTER, CERAMIC (AEP, G, IT, UK)			
		<CONNECTOR>			
CN1	1-774-292-11	SOCKET, CONNECTOR 15P			
		<TRIMMER>			
CV1	1-141-227-00	TRIMMER 20PF (E3, EA, MY, SP, HK)			
CV2	1-141-227-00	TRIMMER 20PF (E3, EA, MY, SP, HK)			
		<DIODE>			
D1	8-719-976-30	DIODE KV1560N (E3, EA, MY, SP, HK)			
D21	8-719-976-99	DIODE UDZ-TE-17-5.1B			
D41	8-719-016-74	DIODE 1SS352-TPH3			
		<FRONTEND>			
FE1	1-233-532-11	FRONTEND (EXCEPT AEP, G, IT, UK)			
FE1	1-233-542-11	FRONTEND (4GAND) (AEP, G, IT, UK)			
FE2	1-233-514-11	ENCAPSULATED COMPONENT (AEP, UK)			
FE2	1-239-260-11	ENCAPSULATED COMPONENT (G, IT, E2, MX, AR, AUS)			
FE2	1-239-262-11	ENCAPSULATED COMPONENT (E3, EA, MY, SP, HK)			
		<IC>			
IC21	8-759-288-54	IC LC72130			
IC41	8-759-176-03	IC LA1835			

Ref. No.	Part No.	Description	Remark
		<IFT>	
IFT41	1-409-636-11	TRANSFORMER,IF (CERAMIC FILTER)	
		<JUMPER RESISTOR >	
JR1	1-216-295-00	CONDUCTOR, CHIP (2012)	(G, IT, E2, MX, AR, AUS)
JR2	1-216-295-00	CONDUCTOR, CHIP (2012)	(AEP, UK)
JR3	1-216-295-00	CONDUCTOR, CHIP (2012)	(G,IT, E2, MX, AR, AUS)
JR6	1-216-295-00	CONDUCTOR, CHIP (2012)	(AEP, G, IT, UK)
JR7	1-216-295-00	CONDUCTOR, CHIP (2012)	(G, IT, E2, MX, AR, AUS)
JR8	1-216-295-00	CONDUCTOR, CHIP (2012)	(AEP, UK)
JR9	1-216-295-00	CONDUCTOR, CHIP (2012)	(AEP, UK)
JR45	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR46	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR47	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR48	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR49	1-216-296-00	CONDUCTOR, CHIP (3216)	
JR50	1-216-295-00	CONDUCTOR, CHIP (2012)	(E3, EA, MY, SP, HK)
JR51	1-216-295-00	CONDUCTOR, CHIP (2012)	(AEP, UK, E3, EA, MY, SP, HK)
JR52	1-216-295-00	CONDUCTOR, CHIP (2012)	
JR53	1-216-296-00	CONDUCTOR, CHIP (3216)	(AEP, UK,E3, EA, MY, SP, HK)
JR54	1-216-295-00	CONDUCTOR, CHIP (2012)	
JW4	1-249-413-11	CARBON 470 5% 1/4W	(AEP, G, IT, UK)
JW5	1-249-413-11	CARBON 470 5% 1/4W	(AEP, G, IT, UK)
		<COIL>	
L1	1-410-521-11	MICRO INDUCTOR 100uH	(E3, EA, MY, SP, HK)
L2	1-414-142-11	MICRO INDUCTOR 1uH	(AEP, G, IT, UK)
L3	1-410-521-11	MICRO INDUCTOR 100uH	
L4	1-410-515-11	INDUCTOR 33uH	(AEP, G, IT, UK)
L41	1-407-500-00	MICRO INDUCTOR 4.7mH	(AEP, UK)
L41	1-410-119-11	MICRO INDUCTOR (ELTYPE) 1mH	(EXCEPT AEP, UK)
		<LOW PASS FILTER>	
LPF41	1-239-845-11	FILTER, LOW PASS	
LPF42	1-239-845-11	FILTER, LOW PASS	

Ref. No.	Part No.	Description	Remark
		<TRANSISTOR>	
Q1	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L	
Q2	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L	
Q3	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L	
Q4	8-729-201-27	TRANSISTOR 2SC2715Y-TE85L	
Q5	8-729-424-08	TRANSISTOR MUN2111T1	
Q8	8-729-033-67	TRANSISTOR 2SK211-Y-TE85L	(E3, EA, MY, SP, HK)
Q9	8-729-216-22	TRANSISTOR 2SA812-M5M6	(AEP, UK, E3, EA, MY, SP, HK)
Q10	8-729-216-22	TRANSISTOR 2SA812-M5M6	(E3, EA, MY, SP, HK)
Q11	8-729-421-22	TRANSISTOR MUN2211T1	(AEP, UK)
Q12	8-729-421-22	TRANSISTOR MUN2211T1	(AEP, UK, E3, EA, MY, SP, HK)
Q13	8-729-421-22	TRANSISTOR MUN2211T1	(AEP, UK, E3, EA, MY, SP, HK)
Q14	8-729-421-22	TRANSISTOR MUN2211T1	(AEP, UK, E3, EA, MY, SP, HK)
		<RESISTOR>	
R1	1-249-401-11	CARBON 47 5% 1/4W	
R2	1-216-037-00	METAL CHIP 330 5% 1/10W	
R3	1-216-037-00	METAL CHIP 330 5% 1/10W	
R5	1-216-037-00	METAL CHIP 330 5% 1/10W	
R6	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R7	1-216-037-00	METAL CHIP 330 5% 1/10W	
R8	1-216-037-00	METAL CHIP 330 5% 1/10W	
R9	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R10	1-216-037-00	METAL CHIP 330 5% 1/10W	
R11	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R12	1-216-037-00	METAL CHIP 330 5% 1/10W	
R13	1-216-037-00	METAL CHIP 330 5% 1/10W	
R14	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R18	1-216-073-00	METAL CHIP 10K 5% 1/10W	(AEP, UK)
R18	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	(E3, EA, MY, SP, HK)
R19	1-216-073-00	METAL CHIP 10K 5% 1/10W	(AEP, UK, E3, EA, MY, SP, HK)
R20	1-216-121-00	METAL CHIP 1M 5% 1/10W	(E3, EA, MY, SP, HK)
R21	1-216-049-00	METAL CHIP 1.0K 5% 1/10W	
R22	1-216-049-00	METAL CHIP 1.0K 5% 1/10W	
R23	1-216-049-00	METAL CHIP 1.0K 5% 1/10W	
R24	1-216-025-00	METAL CHIP 100 5% 1/10W	
R25	1-249-417-11	CARBON 1K 5% 1/4W	

TCB TRANS

Ref. No.	Part No.	Description				Remark
R26	1-249-437-11	CARBON	47K	5%	1/4W	
R27	1-249-429-11	CARBON	10K	5%	1/4W	
R28	1-249-417-11	CARBON	1K	5%	1/4W	
R29	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R30	1-216-186-00	METAL CHIP	330	5%	1/8W	
R31	1-216-025-00	METAL CHIP	100	5%	1/10W	
R32	1-249-425-11	CARBON	4.7K	5%	1/4W	
R33	1-249-425-11	CARBON	4.7K	5%	1/4W	
R34	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R35	1-216-214-00	METAL CHIP	4.7K	5%	1/8W	
R36	1-216-025-00	METAL CHIP	100	5%	1/10W	
R37	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R38	1-216-089-00	METAL CHIP	47K	5%	1/10W	
R39	1-249-429-11	CARBON	10K	5%	1/4W	
R42	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R43	1-216-042-00	METAL CHIP	510	5%	1/10W	
R44	1-216-021-00	METAL CHIP	68	5%	1/10W	
R45	1-247-843-11	CARBON	3.3K	5%	1/4W	
R46	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R47	1-216-097-00	METAL CHIP	100K	5%	1/10W	
R48	1-249-417-11	CARBON	1K	5%	1/4W	
R49	1-216-049-00	METAL CHIP	1.0K	5%	1/10W	
R50	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R51	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	
R53	1-249-429-11	CARBON	10K	5%	1/4W	
R54	1-249-399-11	CARBON	33	5%	1/4W	(E3, EA, MY, SP, HK)
R55	1-216-162-00	METAL CHIP	33	5%	1/8W	
R56	1-249-393-11	CARBON	10	5%	1/4W	
R91	1-216-295-00	CONDUCTOR, CHIP		(2012)		(AEP, UK)
R91	1-216-065-00	METAL CHIP	4.7K	5%	1/10W	(E3, EA, MY, SP, HK)
R92	1-216-073-00	METAL CHIP	10K	5%	1/10W	(AEP, UK, E3, EA, MY, SP, HK)
R93	1-216-073-00	METAL CHIP	0K	5%	1/10W	(E3, EA, MY, SP, HK)
R94	1-216-073-00	METAL CHIP	10K	5%	1/10W	(AEP, UK, E3, EA, MY, SP, HK)
		< VARIABLE RESISTOR>				
RV41	1-238-601-11	RES,ADJ,CARBON	22K			
RV42	1-238-600-11	RES,ADJ,CARBON	10K			

Ref. No.	Part No.	Description	Remark
		<COIL>	
T1	1-409-505-11	COIL (ANT.SW3) (E3, EA, MY, SP, HK)	
T2	1-402-960-11	COIL (OSC.SW3) (E3, EA, MY, SP, HK)	
		<TERMINAL>	
TM1	1-537-238-21	TERMINAL BOARD(ANT) (ANTENNA)	(EXCEPT AEP, G, IT, UK)
TM1	1-537-488-11	TERMINAL BOARD(ANT) (ANTENNA)	(AEP, G, T, UK)
		<VIBRATOR>	
X21	1-760-549-11	VIBRATOR, CRYSTAL (4.5MHz)	
X41	1-760-220-11	FILTER, CERAMIC (10.7MHz)	
X42	1-527-981-00	FILTER, CERAMIC (450KHz)	
X43	1-577-075-11	OSCILLATOR, CERAMIC (456KHz)	
**********			
*	1-660-718-11	TRANS BOARD **********	
	1-533-217-31	HOLDER, FUSE	
		<CONNECTOR>	
* CN851	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P	
* CN852	1-564-525-11	PLUG, CONNECTOR 10P	
		<FUSE>	
⚠F801	1-532-500-51	FUSE, CYLINDRICAL (TIME-LAG) (0.63A/250V)	
⚠F802	1-532-502-51	FUSE (1.25A/250V)	(E2, E3, MY, SP, MX, EA, HK, AR)
		<FUSIBLE RESISTOR>	
⚠R814	1-219-119-81	FUSIBLE 0.1 5% 1/4W	F
⚠R815	1-219-119-81	FUSIBLE 0.1 5% 1/4W	F
		<SWITCH>	
⚠S801	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE	(VOLTAGE SELECTOR) (EXCEPT AEP, G, IT, UK, AUS)
		<TRANSFORMER>	
⚠T801	1-429-900-11	TRANSFORMER, POWER (EXCEPT AEP, G, IT, UK)	
⚠T801	1-429-901-11	TRANSFORMER, POWER (AEP, G, IT, UK)	
**********			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
*	A-4390-036-A	WOOFER BOARD, COMPLETE (AEP, G, IT)			
*	A-4390-045-A	WOOFER BOARD, COMPLETE (UK)			
*	A-4390-051-A	WOOFER BOARD, COMPLETE (E2, E3, EA, HK, AR, AUS)			
*	A-4390-058-A	WOOFER BOARD, COMPLETE (MY, SP)			
*	A-4390-063-A	WOOFER BOARD, COMPLETE (MX)			
		**********			
		< CAPACITOR >			
C1101	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1102	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C1103	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C1105	1-126-964-11	ELECT	10uF	20%	50V
C1106	1-130-489-00	MYLAR	0.033uF	5%	50V
C1107	1-130-489-00	MYLAR	0.033uF	5%	50V
C1108	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1109	1-126-964-11	ELECT	10uF	20%	50V
C1110	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C1151	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1152	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C1153	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C1155	1-126-964-11	ELECT	10uF	20%	50V
C1156	1-130-489-00	MYLAR	0.033uF	5%	50V
C1157	1-130-489-00	MYLAR	0.033uF	5%	50V
C1158	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C1159	1-126-964-11	ELECT	10uF	20%	50V
C1160	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C2002	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C2004	1-126-964-11	ELECT	10uF	20%	50V
C2005	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C2007	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C2008	1-126-964-11	ELECT	10uF	20%	50V
C2009	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C2010	1-136-164-00	FILM	0.082uF	5%	50V
C2011	1-136-164-00	FILM	0.082uF	5%	50V
C2012	1-126-964-11	ELECT	10uF	20%	50V
C2013	1-136-167-00	FILM	0.15uF	5%	50V
C2014	1-136-167-00	FILM	0.15uF	5%	50V
C2021	1-124-903-11	ELECT	1uF	20%	50V
C2022	1-124-903-11	ELECT	1uF	20%	50V
		<CONNECTOR>			
CN201	1-774-292-11	HOUSING,CONNECTOR (PC BOARD)15P			
		<IC>			
IC1001	8-759-636-55	IC M5218AFP			
IC1002	8-759-100-96	IC uPC4558G2			
IC2001	8-759-100-96	IC uPC4558G2			
IC2002	8-759-100-96	IC uPC4558G2			
		<JUMPER RESISTOR>			
JR157	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR159	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR162	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR163	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR164	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR165	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR166	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR167	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR168	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR169	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR171	1-216-295-00	CONDUCTOR, CHIP	(2012)		
JR173	1-216-296-00	CONDUCTOR, CHIP	(3216)		
JR174	1-216-296-00	CONDUCTOR, CHIP	(3216)		
		<TRANSISTOR>			
Q2002	8-729-421-22	TRANSISTOR UN2211			
Q2003	8-729-421-22	TRANSISTOR UN2211			
		<RESISTOR>			
R1101	1-216-113-00	METAL CHIP	470K	5%	1/10W
R1102	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R1103	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R1104	1-216-091-00	METAL CHIP	56K	5%	1/10W
R1105	1-216-073-00	METAL CHIP	10K	5%	1/10W
R1106	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R1107	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R1108	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R1110	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R1151	1-216-113-00	METAL CHIP	470K	5%	1/10W
R1152	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R1153	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R1154	1-216-091-00	METAL CHIP	56K	5%	1/10W
R1155	1-249-429-11	CARBON	10K	5%	1/4W
R1156	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R1157	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R1158	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R1160	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R2001	1-249-429-11	CARBON	10K	5%	1/4W
R2003	1-216-073-00	METAL CHIP	10K	5%	1/10W
R2004	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R2005	1-216-081-00	METAL CHIP	22K	5%	1/10W
R2006	1-216-081-00	METAL CHIP	22K	5%	1/10W

WOOFER

Ref. No.	Part No.	Description			Remark
R2007	1-216-113-00	METAL CHIP	470K	5%	1/10W
R2008	1-216-073-00	METAL CHIP	10K	5%	1/10W
R2009	1-247-895-00	CARBON	470K	5%	1/4W
R2011	1-216-073-00	METAL CHIP	10K	5%	1/10W
R2012	1-216-091-00	METAL CHIP	56K	5%	1/10W
R2013	1-249-429-11	CARBON	10K	5%	1/4W
R2014	1-216-073-00	METAL CHIP	10K	5%	1/10W
R2015	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R2016	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R2019	1-216-113-00	METAL CHIP	470K	5%	1/10W
R2020	1-216-113-00	METAL CHIP	470K	5%	1/10W

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MISCELLANEOUS
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6	1-773-052-11	WIRE (FLAT TYPE) (17 CORE)
⚠12	1-569-007-11	ADAPTOR, CONVERSION 2P (E3)
⚠13	1-569-008-11	ADAPTOR, CONVERSION 2P (EA, MY, SP)
⚠14	1-770-019-12	ADAPTOR, CONVERSION PLUG 3P (HK)
59	1-777-060-11	WIRE (FLAT TYPE) (21 CORE)
60	1-777-062-11	WIRE (FLAT TYPE) (11 CORE)
252	1-452-719-11	MAGNET ASSY
262	1-776-220-11	WIRE (FLAT TYPE) (19 CORE)
⚠304	8-848-387-01	OPTICAL PICK-UP KSS-213BA/S-N
305	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)
⚠CNP801	1-558-943-41	CORD, POWER (E, MX)
⚠CNP801	1-575-651-21	CORD, POWER (AEP, G, IT, EA, MY, SP, HK, AR)
⚠CNP801	1-696-845-11	CORD, POWER (AUS)
⚠CNP801	1-751-522-11	CORD, POWER (UK)
HP101	1-500-093-11	HEAD, MAGNETIC (PLAYBACK) (DECK A)
HRPE101	1-500-094-11	HEAD, MAGNETIC (REC/PB/ERASE) (DECK B)
M1	X-3371-223-1	MOTOR ASSY, CAPSTAN
M2	A-2004-410-A	MOTOR ASSY, DC (TRIGGER)
M101	X-4917-504-1	MOTOR ASSY (SLED)
M102	X-4917-523-4	MOTOR ASSY (SPINDLE)
M903	A-4604-363-A	MOTOR (L) ASSY (LOADING)
Q805	8-729-141-83	TRANSISTOR 2SB1375
⚠T801	1-429-900-11	TRANSFORMER, POWER (EXCEPT AEP, G, IT, UK)
⚠T801	1-429-901-11	TRANSFORMER, POWER (AEP, G, IT, UK)

****

Ref. No.	Part No.	Description	Remark

****
HARDWARE LIST
****

#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S
#2	7-685-662-79	SCREW +BVTP 4X14 TYPE2 N-S
#3	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#4	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S
#5	7-685-862-09	SCREW +BVTT 2.6X6 (S)
#6	7-685-131-19	SCREW +BTP 2.6X4 TYPE2 N-S
#7	7-621-775-10	SCREW +B 2.6X4
#8	7-623-921-01	RING, RETAINING, CAPSTAN
#9	7-621-775-00	SCREW +B 2.6X3
#10	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S
#11	7-621-255-15	SCREW +P 2X3

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

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9-960-743-11

Sony Corporation
Home A&V Products Company

SS-W33D

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model

This set is the speaker system in CHC-P33D.

SPECIFICATION

Speaker System:	Full range
Speaker Units:	13 cm dia., cone type
Enclosure Type:	Bass reflex type
Rated Impedances:	6 ohms
Frequency Response:	40Hz - 180Hz
Dimensions:	Approx. 225 x 210 x 295 mm (w/h/d) incl. front grille
Mass:	Approx. 4.8kg

Design and specifications subject to change without notice.

MICROFILM

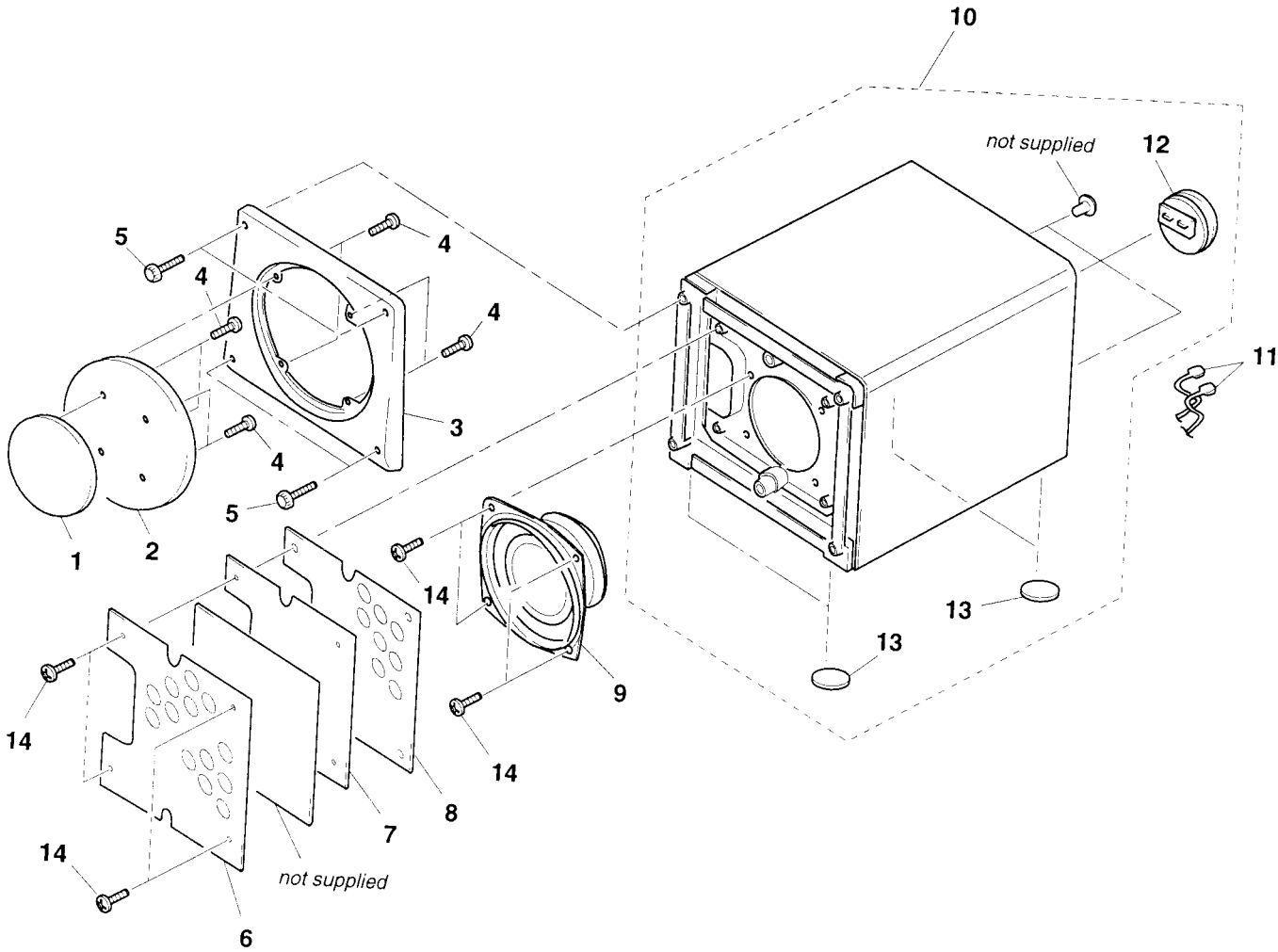
SPEAKER SYSTEM

SONY®

EXPLODED VIEW AND PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  AED : Norway, Denmark, Sweden, Finland model
  G : German model



Ref. No.	Part No.	Description	Remark
1	4-984-365-02	PLATE	
2	X-4947-461-2	FRAME ASSY, GRILLE	
3	4-984-364-01	PANEL, FRONT	
4	4-986-971-01	SCREW (3.5)	
5	4-984-567-01	SCREW (4X20), TAPPING	
* 6	4-984-375-01	BRACKET (B)	
* 7	4-984-373-02	ABSORBENT, ACOUSTIC	
* 8	4-984-374-01	BRACKET (A)	
9	1-505-402-11	SPEAKER (13CM)	
* 10	A-4384-269-C	CABINET ASSY, SPEAKER (EXCEPT G,AED)	
* 10	A-4384-270-C	CABINET ASSY, SPEAKER (G,AED)	

Ref. No.	Part No.	Description	Remark
11	1-777-632-11	CORD	
12	1-537-332-11	TERMINAL BOARD	
13	4-984-378-01	FOOT	
14	7-685-663-79	SCREW +BVTP 4X16 TYPE2 N-S	

ACCESSORIES & PACKING MATERIALS
****

*	4-985-469-01	CUSHION (SW3) (FRONT)
*	4-985-470-01	CUSHION (SW3) (REAR)

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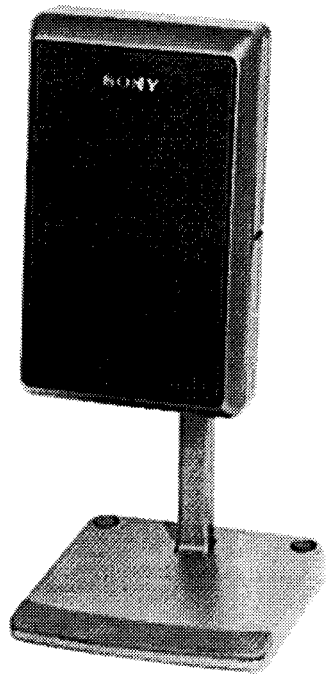
SS-S33D

SERVICE MANUAL

AEP Model
UK Model
E Model
Australian Model



This set is the speaker system in CHC-P33D.

SPECIFICATION

Speaker System:	Full range
Speaker Units:	6 cm dia., cone type x 2
Enclosure Type:	Close type (with supplied speaker stand)
Rated Impedances:	4 ohms
Frequency Response:	180Hz - 20kHz
Dimensions:	Approx. 110 x 185 x 100 mm (w/h/d) (per speaker, incl. front grille)
	Approx. 120 x130 mm (w/d) (pedestal)
Mass:	Approx. 1.8kg per speaker with speaker stand

Design and specifications subject to change without notice.

MICROFILM

SPEAKER SYSTEM

SONY®

EXPLODED VIEW AND PARTS LIST

NOTE:

- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
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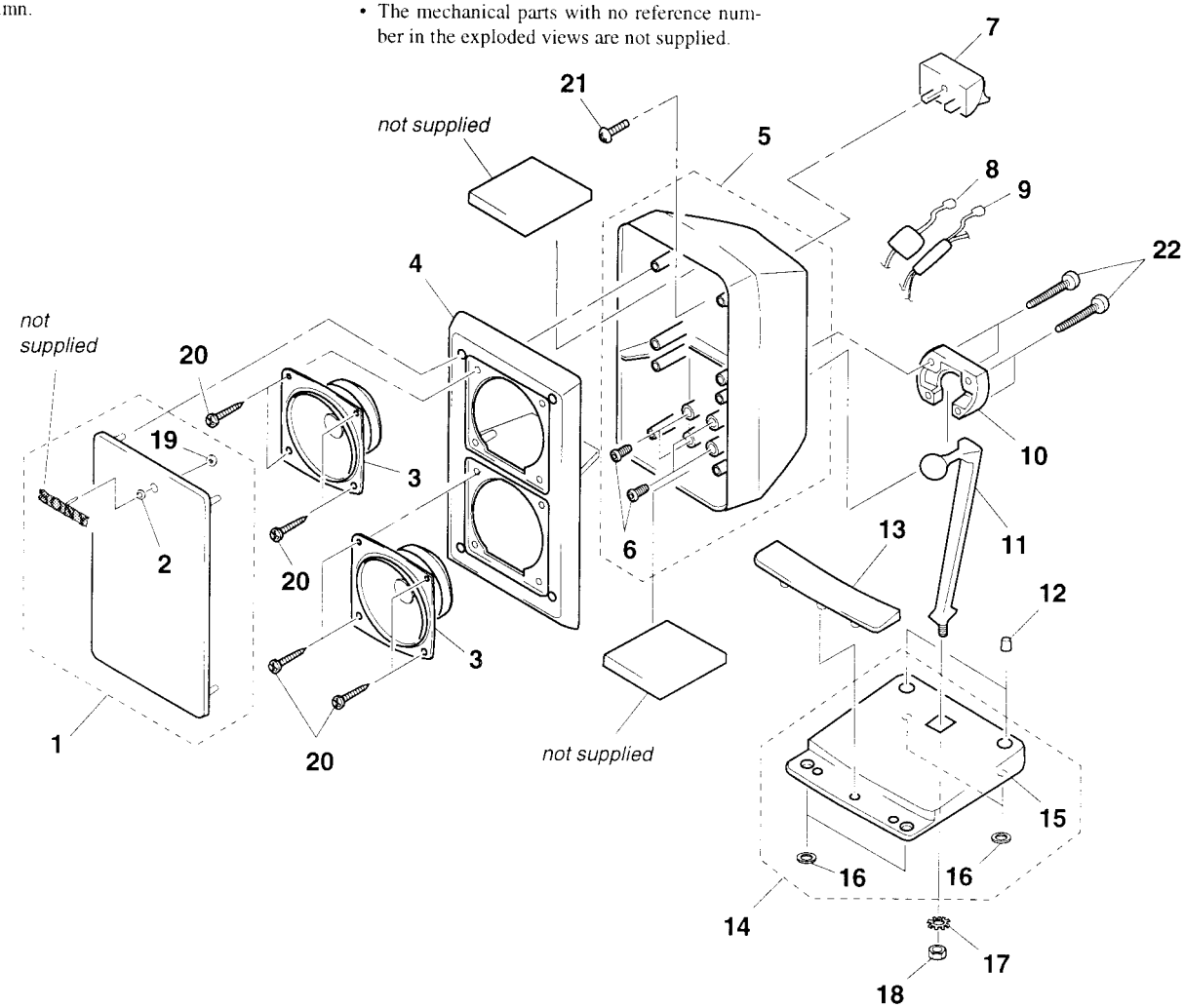

Ref. No.	Part No.	Description	Remark
1	X-4947-459-1	FRAME ASSY, GRILLE	
2	3-701-437-11	WASHER	
3	1-505-401-11	SPEAKER (57MM)	
4	4-984-355-01	PANEL, FRONT	
* 5	X-4947-485-2	CABINET ASSY	
6	4-849-835-00	NUT, M5L	
7	1-694-159-11	TERMINAL BOARD	
8	1-777-633-11	CORD (WITH FILTER)	
9	1-777-634-11	CORD	
* 10	4-984-361-01	BRACKET	
* 11	4-984-360-01	STAY	
12	4-984-362-01	CAP	
* 13	4-984-363-01	PLATE	
14	X-4947-521-1	BASE ASSY	
15	4-984-359-01	BASE	

Ref. No.	Part No.	Description	Remark
16	4-984-635-01	FOOT	
17	4-985-287-01	WASHER, TOOTH	
18	4-985-286-01	NUT, HEXAGON	
19	7-624-200-01	NUT, PUSH 1.5	
20	7-682-570-09	+PTT 4X40, (S TIGHT)	
21	7-685-661-79	SCREW +P 4X12 TYPE2 NON-SLIT	
22	7-683-442-04	BOLT,HEXAGON SOCKET 5X25	
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-777-635-11	CORD (RED)	
	1-777-636-11	CORD (WHITE)	
*	4-985-459-01	WRENCH, HEXAGON SHAFT	
*	4-985-472-01	CUSHION (SS3)	

9-960-773-11

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